CDP-CX355

SERVICE MANUAL

Ver 1.0 2002. 02

US Model
Canadian Model
AEP Model
UK Model
E Model
Australian Model

Model Name Using Similar Mechanism	NEW
CD Mechanism Type	CDM54-K1BD45
Base Unit Type	BU-K1BD45
Optical Pick-up Type	KSS-213BFN

SPECIFICATIONS

Compact disc player

Laser
Semiconductor laser (λ = 780 nm)
Emission duration: continuous

Laser output
Max 44.6 µW*
* This output is the value measured at a distance of 200 mm from the objective lens surface on the Optical Pick-up block with 7 mm aperture.

Frequency response 20 Hz to 20 kHz ±0.5 dB

Signal-to-noise ratio More than 107 dB

Dynamic range More than 86 dB

Harmonic distortion Less than 0.009 %

Channel separation More than 100 dB

Outputs

	Jack type	Maximum output level	Load impedance
ANALOG OUT	Phono jacks	2 V (at 50 kilohms)	Over 10 kilohms
DIGITAL OUT (OPTICAL)	Optical output connector	–18 dBm	Wave length: 660 nm

General

Where purchased	Power consumptions	Power requirements
USA and Canadian	120 V AC, 60 Hz	13 W
Australia	240 V AC, 50/60 Hz	14 W
Europe and Asia	230 V AC, 50/60 Hz	13 W
Other countries	120 V AC, 50/60 Hz	13 W

Dimensions (approx.) (w/h/d) 430 × 189 × 493 mm ($17 \times 7\,^{1}/_{2} \times 19\,^{3}/_{8}$ in.) incl. projecting parts

Mass (approx.) 8.5 kg (18 lbs 12 oz)

Supplied accessories
- Audio cord (1)
- Remote commander (remote) (1)
- Size AA (R6) batteries (2)

Design and specifications are subject to change without notice.

COMPACT DISC PLAYER

9-873-551-01
2002B1600-1
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Sony Corporation
Home Audio Company
Published by Sony Engineering Corporation

SONY®

Laser component in this product is capable of emitting radiation exceeding the limit for Class 1.

This appliance is classified as a CLASS 1 LASER product. The CLASS 1 LASER PRODUCT MARKING is located on the rear exterior.

The following caution label is located inside the unit.

CAUTION : INVISIBLE LASER RADIATION WHEN OPEN AND INTERLOCKS DEFEATED. AVOID EXPOSURE TO BEAM.
ADVARSEL : USYNLIG LASERSTRÅLING VED ÅBNING NÅR SIKKERHEDSAFBRYDERE ER UDE AF FUNKTION. UNDGÅ UDSAETTELSE FOR STRÅLING.
VORSICHT : UNSICHTBARE LASERSTRAHLUNG. WENN ABDECKUNG GEÖFFNET UND SICHEREITSVERRIEGELUNG ÜBERBRÜCKT. NICHT DEM STRAHL AUSSETZEN.
VARO! : AVATTAESSA JA SUOJALUKITUS OHITETTAESSA OLET ALTTIINA NÄKYMÄTTÖMÄLLE LASERSÄTEILYLLE. ÄLÄ KATSO SÄTEESEEN.
VARNING : OSYNLING LASERSTRÅLING NÄR DENNA DEL ÄR ÖPPNAD OCH SPÄRREN ÄR URKOPPLAD. BETRAKTA EJ STRÅLEN.
ADVERSEL : USYNLIG LASERSTRÅLING NÅR DEKSEL ÅPNES OG SIKKERHEDSLÅS BRYTES. UNNGÅ EKSPONERING FOR STRÅLEN.
VIGYAZAT! : A BURKOLAT NYITÁSAKOR LÁTHATATLAN LÉZERSUGÁRVESZÉLY! KERÜLJE A BESUGÁRZÁST!

CAUTION
Use of controls or adjustments or performance of procedures other than those specified herein may result in hazardous radiation exposure.

Notes on chip component replacement

- Never reuse a disconnected chip component.
- Notice that the minus side of a tantalum capacitor may be damaged by heat.

Flexible Circuit Board Repairing

- Keep the temperature of soldering iron around 270˚C during repairing.
- Do not touch the soldering iron on the same conductor of the circuit board (within 3 times).
- Be careful not to apply force on the conductor when soldering or unsoldering.

SAFETY-RELATED COMPONENT WARNING!!

COMPONENTS IDENTIFIED BY MARK ⚠ OR DOTTED LINE WITH MARK ⚠ ON THE SCHEMATIC DIAGRAMS AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY.

ATTENTION AU COMPOSANT AYANT RAPPORT À LA SÉCURITÉ!
LES COMPOSANTS IDENTIFÉS PAR UNE MARQUE ⚠ SUR LES DIAGRAMMES SCHÉMATIQUES ET LA LISTE DES PIÈCES SONT CRITIQUES POUR LA SÉCURITÉ DE FONCTIONNEMENT. NE REMPLACER CES COMPOSANTS QUE PAR DES PIÈSES SONY DONT LES NUMÉROS SONT DONNÉS DANS CE MANUEL OU DANS LES SUPPÉMENTS PUBLIÉS PAR SONY.

SAFETY CHECK-OUT

After correcting the original service problem, perform the following safety checks before releasing the set to the customer: Check the antenna terminals, metal trim, “metallized” knobs, screws, and all other exposed metal parts for AC leakage. Check leakage as described below.

LEAKAGE

The AC leakage from any exposed metal part to earth ground and from all exposed metal parts to any exposed metal part having a return to chassis, must not exceed 0.5 mA (500 microamperes). Leakage current can be measured by any one of three methods.

1. A commercial leakage tester, such as the Simpson 229 or RCA WT-540A. Follow the manufacturers’ instructions to use these instruments.

2. A battery-operated AC milliammeter. The Data Precision 245 digital multimeter is suitable for this job.

3. Measuring the voltage drop across a resistor by means of a VOM or battery-operated AC voltmeter. The “limit” indication is 0.75 V, so analog meters must have an accurate low-voltage scale. The Simpson 250 and Sanwa SH-63Trd are examples of a passive VOM that is suitable. Nearly all battery operated digital multimeters that have a 2V AC range are suitable. (See Fig. A)

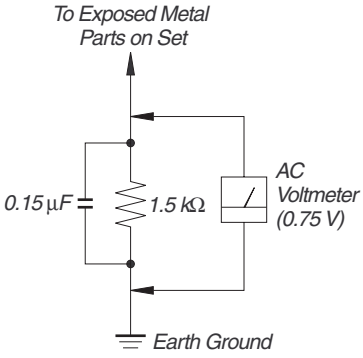
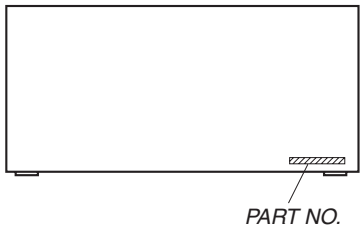


Fig. A. Using an AC voltmeter to check AC leakage.

MODEL IDENTIFICATION
— BACK PANEL —



PARTS No.	MODEL
4-238-109-0☐	US
4-238-109-1☐	Canadian
4-238-109-2☐	AEP, UK
4-238-109-3☐	Singapore
4-238-109-4☐	Australian
4-238-109-5☐	E

SECTION 1
SERVICING NOTE

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NOTES ON HANDLING THE OPTICAL PICK-UP BLOCK OR BASE UNIT

The laser diode in the optical pick-up block may suffer electrostatic break-down because of the potential difference generated by the charged electrostatic load, etc. on clothing and the human body.
During repair, pay attention to electrostatic break-down and also use the procedure in the printed matter which is included in the repain parts.
The flexible board is easily damaged and should be handled with care.

NOTES ON LASER DIODE EMISSION CHECK

The laser beam on this model is concentrated so as to be focused on the disc reflective surface by the objective lens in the optical pick-up block. Therefore, when checking the laser diode emission, observe from more than 30 cm away from the objective lens.
The emission check enables continuous checking of the S curve.

LASER DIODE AND FOCUS SEARCH OPERATION CHECK

Carry out the “S curve check” in “CD section adjustment” and check that the S curve waveform is output three times.

CD-TEXT TEST DISC

This unit is able to display the TEXT data (character information) written in the CD on its fluorescent indicator tube.
The CD-TEXT TEST DISC (TGCS-313:J-2501-126-A) is used for checking the display.
To check, perform the following procedure.

Checking Method:

1. Turn ON the power, set the disc on the disc table with the side labeled as “test disc” as the right side, close the front cover, and chuck the disc.
2. The following will be displayed on the fluorescent indicator tube. (The display switches each time the TIME/TEXT button is pressed.)
   Display : CD TEXT TEST DISC (Album Title)
3. Press the ▷ button and play back the disc.
4. The following will be displayed on the fluorescent indicator tube. (If nothing is displayed, press the TIME/TEXT button.)
   Display : 1kHz/0 dB/ L&R
5. Rotate ⏮ and ⏭ knob to switch the track. The text data of each track will be displayed.
   For details of the displayed contents for each track, refer to “Table 1 : CD-TEXT TEST DISC Text Data Contents” and “Table 2 : CD-TEXT TEST DISC Recorded Contents and Display”.

Restrictions in CD-TEXT Display

In this unit, some special characters will not be displayed properly. These will be displayed as a space or a character resembling it. For details, refer to “Table 2 : CD-TEXT DISC Recorded Contents and Display”.

Table 1 : CD-TEXT TEST DISC Text Data Contents (TRACKS No. 1 to 41:Normal Characters)

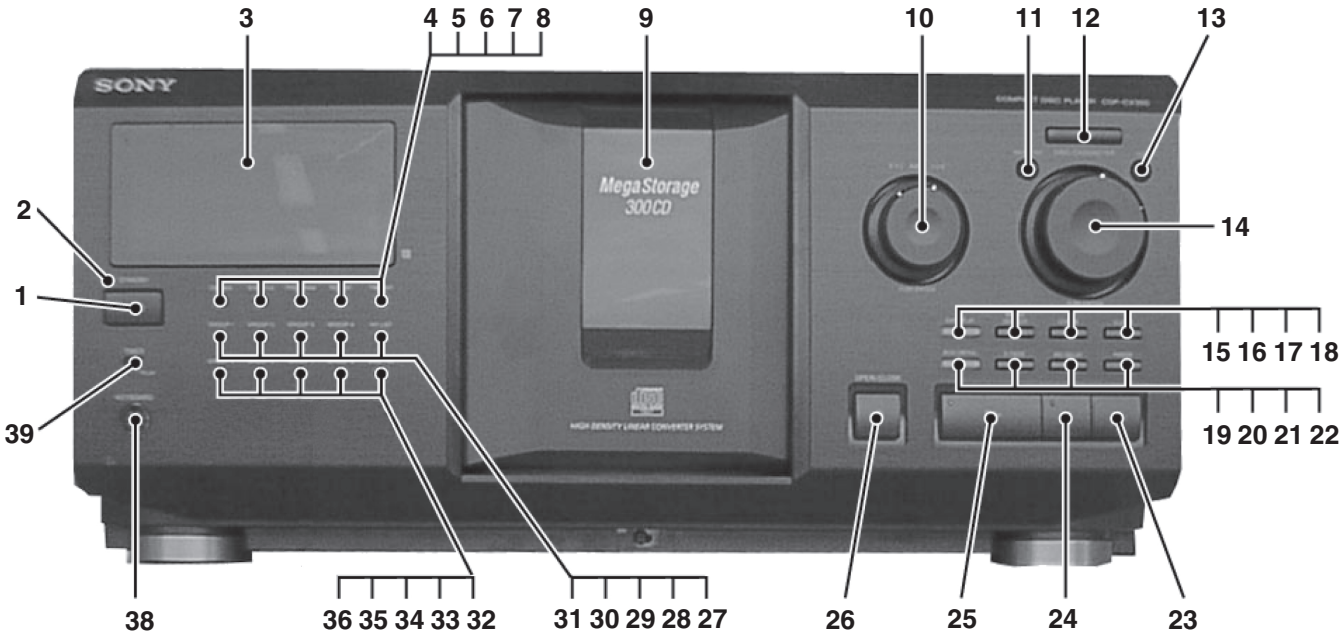
TRACK No.	Displayed Contents	TRACK No.	Displayed Contents
1	1kHz/0dB/L&R	22	1kHz/-90dB/L&R
2	20Hz/0dB/L&R	23	Infinity Zero w/o emphasis//L&R
3	40Hz/0dB/L&R	24	Infinity Zero with emphasis//L&R
4	100Hz/0dB/L&R	25	400Hz+7kHz(4:1)/0dB/L&R
5	200Hz/0dB/L&R	26	400Hz+7kHz(4:1)/-10dB/L&R
6	500Hz/0dB/L&R	27	19kHz+20kHz(1:1)/0dB/L&R
7	1kHz/0dB/L&R	28	19kHz+20kHz(1:1)/-10dB/L&R
8	5kHz/0dB/L&R	29	100Hz/0dB/L*
9	7kHz/0dB/L&R	30	1kHz/0dB/L*
10	10kHz/0dB/L&R	31	10kHz/0dB/L*
11	16kHz/0dB/L&R	32	20kHz/0dB/L*
12	18kHz/0dB/L&R	33	100Hz/0dB/R*
13	20kHz/0dB/L&R	34	1kHz/0dB/R*
14	1kHz/0dB/L&R	35	10kHz/0dB/R*
15	1kHz/-1dB/L&R	36	20kHz/0dB/R*
16	1kHz/-3dB/L&R	37	100Hz Squer Wave//L&R
17	1kHz/-6dB/L&R	38	1kHz Squer Wave//L&R
18	1kHz/-10dB/L&R	39	1kHz w/emphasis/-0.37dB/L&R
19	1kHz/-20dB/L&R	40	5kHz w/emphasis/-4.53dB/L&R
20	1kHz/-60dB/L&R	41	16kHz w/emphasis/-9.04dB/L&R
21	1kHz/-80dB/L&R		

NOTE : The contents of Track No. 1 to 41 are the same as those of the current TEST DISC-their titles are displayed.

Table 2: CD-TEXT TEST DISC Recorded Contents and Display
(In this unit, some special characters cannot be displayed. This is no a fault.)

TRACK No.	Recorded contents	Display
42	! " # $ % & ´ (21h to 27h)1kHz 0dB L&R	← All the same
43	( ) * + , – . / (28h to 2Fh)	← All the same
44	0 1 2 3 4 5 6 7 (30h to 37h)	← All the same
45	8 9 : ; < = > ? (38h to 3Fh)	← All the same
46	@A B C D E F G (40h to 47h)	← All the same
47	H I J K L M N O (48h to 4Fh)	← All the same
48	P Q R S T U V W (50h to 57h)	← All the same
49	X Y Z [¥] ^ _ (58h to 5Fh)	X Y Z [\ ] ^ _ (58····
50	` a b c d e f g (60h to 57h)	← All the same
51	h i j k l m n o (68h to 6Fh)	← All the same
52	p q r s t u v w (70h to 77h)	← All the same
53	x y z { l } ~ ▮ (78h to 7Fh)	x y z { l } ~ (78····
54	▯ ¡ ¢ £ ¤ ¥ ¦ § (A0h to A7h) 8859-1	¡ ¢ £ ¤ ¥ ¦ § (A0···· ▯ is not displayed
55	♪ © ª « ¬ ® ¯ (A8h to AFh)	♪ (A8···· © ª « ¬ ® ¯ are not displayed
56	· ± ² ³ ´ µ ¶ • (B0h to B7h)	´ µ • (B0···· · ± ² ³ ¶ are not displayed
57	† ¹ º » ¼ ½ ¾ ¿ (B8h to BFh)	† ¿ (B8···· ¹ º » ¼ ½ ¾ are not displayed
58	À Á Â Ã Ä Å Æ Ç (C0h to C7h)	← All the same
59	È É Ê Ë Ì Í Î Ï (C8h to CFh)	← All the same
60	Ð Ñ Ò Ó Ô Õ Ö × (D0h to D7h)	← All the same
61	Ø Ù Ú Û Ü Ý Þ ß (D8h to DFh)	Φ Ù Ú Û Ü Ý Þ ß (D8····
62	à á â ã ä å æ ç (E0h to E7h)	← All the same
63	è é ê ë ì í î ï (E8h to FFh)	← All the same
64	ð ñ ò ó ô õ ö ÷ (F0h to F7h)	ð ñ ò ó ô õ ö ÷ (F0····
65	ø ù ú û ü ý þ ÿ (F8h to FFh)	← All the same
66	No.66	← All the same
67	No.67	← All the same
to	to	to
99	No.99	← All the same

SECTION 2
GENERAL



Location of Parts and Controls

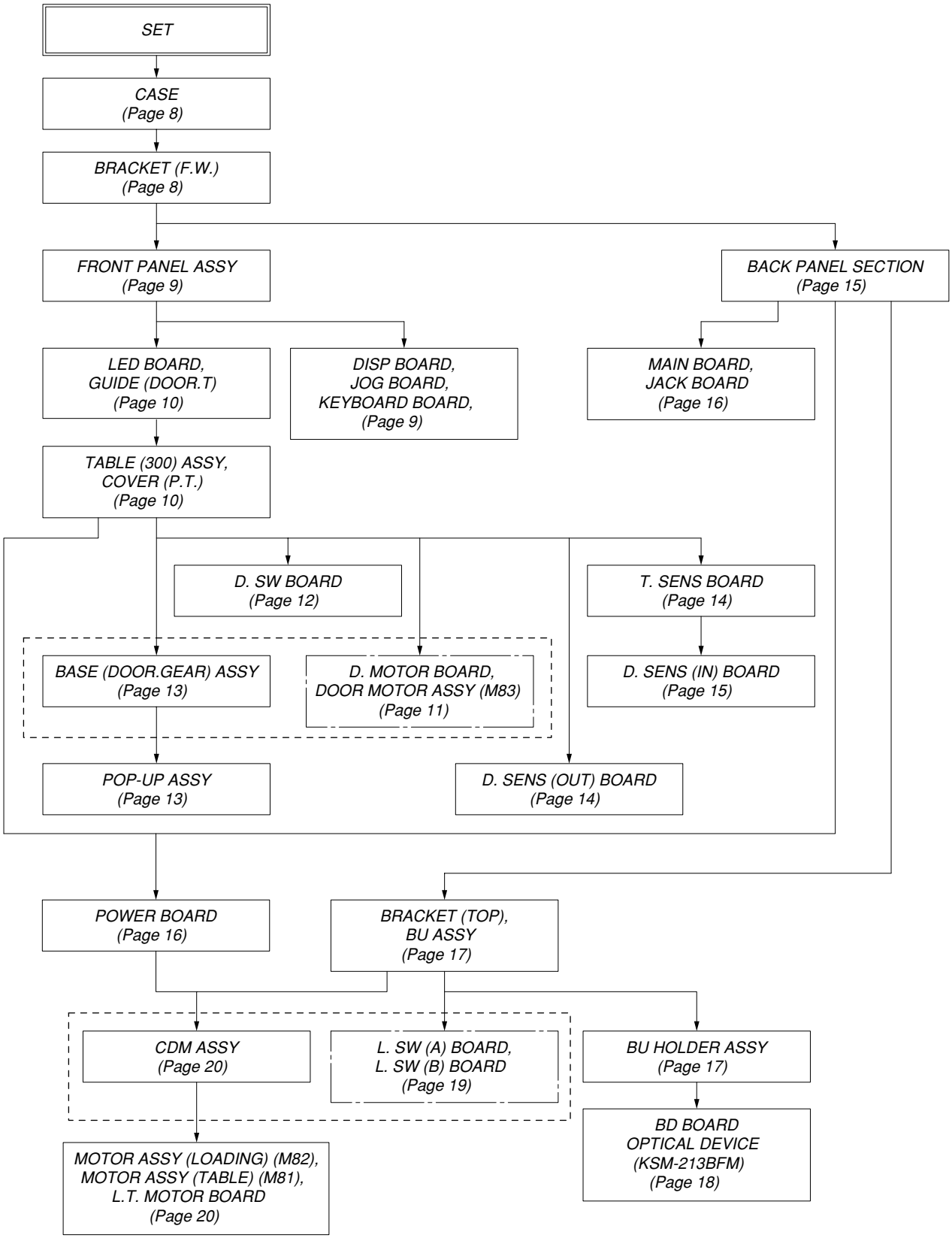
1 I/⏻ (power) button
2 STANDBY indicator
3 Display window
4 CONTINUE button
5 SHUFFLE button
6 PROGRAM button
7 REPEAT button
8 TIME/TEXT button
9 Front cover
10 ⏮ AMS ⏭/PUSH ENTER knob and button
11 MENU/NO button
12 +100 button
13 YES button
14 DISC/CHARACTER/PUSH ENTER knob and button
15 EASY PLAY button and indicator
16 MEMO/SEARCH button
17 CHECK button
18 CLEAR button
19 MEGA CONTROL button and indicator
20 X-FADE button
21 NO DELAY button
22 FADER button
23 ■ (stop)/DISC EJECT button
24 ❚❚ (pause) button and indicator
25 ▷ (play) button and indicator
26 ⏏ OPEN/CLOSE button
27 HIT LIST button and indicator
28 GROUP 4 button and indicator
29 GROUP 3 button and indicator
30 GROUP 2 button and indicator
31 GROUP 1 button and indicator
32 GROUP FILE button
33 GROUP 8 button and indicator
34 GROUP 7 button and indicator
35 GROUP 6 button and indicator
36 GROUP 5 button and indicator
38 KEYBOARD jack
39 TIMER OFF/PLAY switch

* AMS is abbreviation for Automatic Music Sensor.

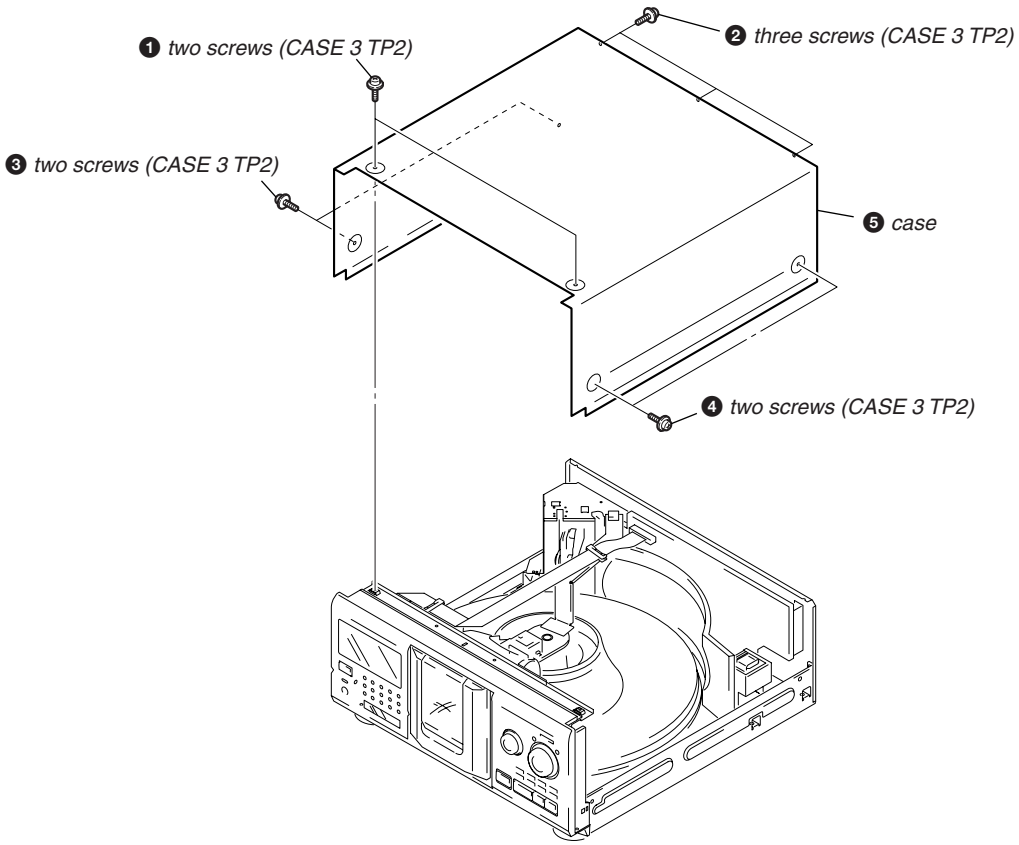
SECTION 3
DISASSEMBLY

Note : Disassemble the unit in the order as shown below.

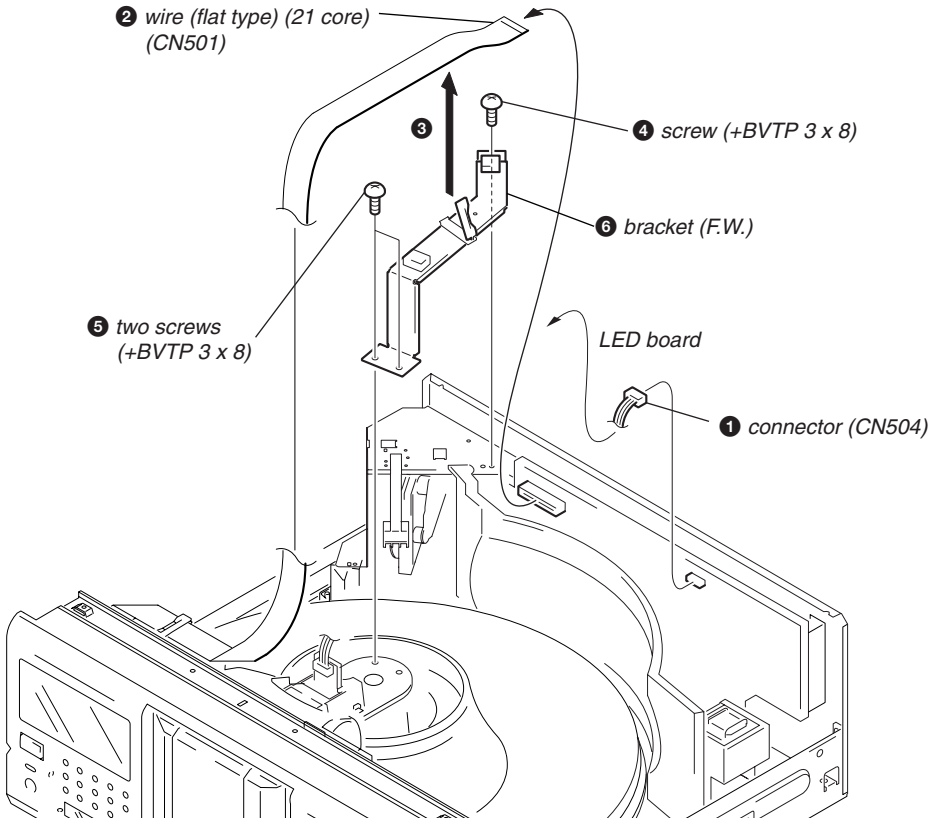
• The parts surrounded by square [ ] are included in the solid line square [ ] in the area shown by the dotted line square [ ].



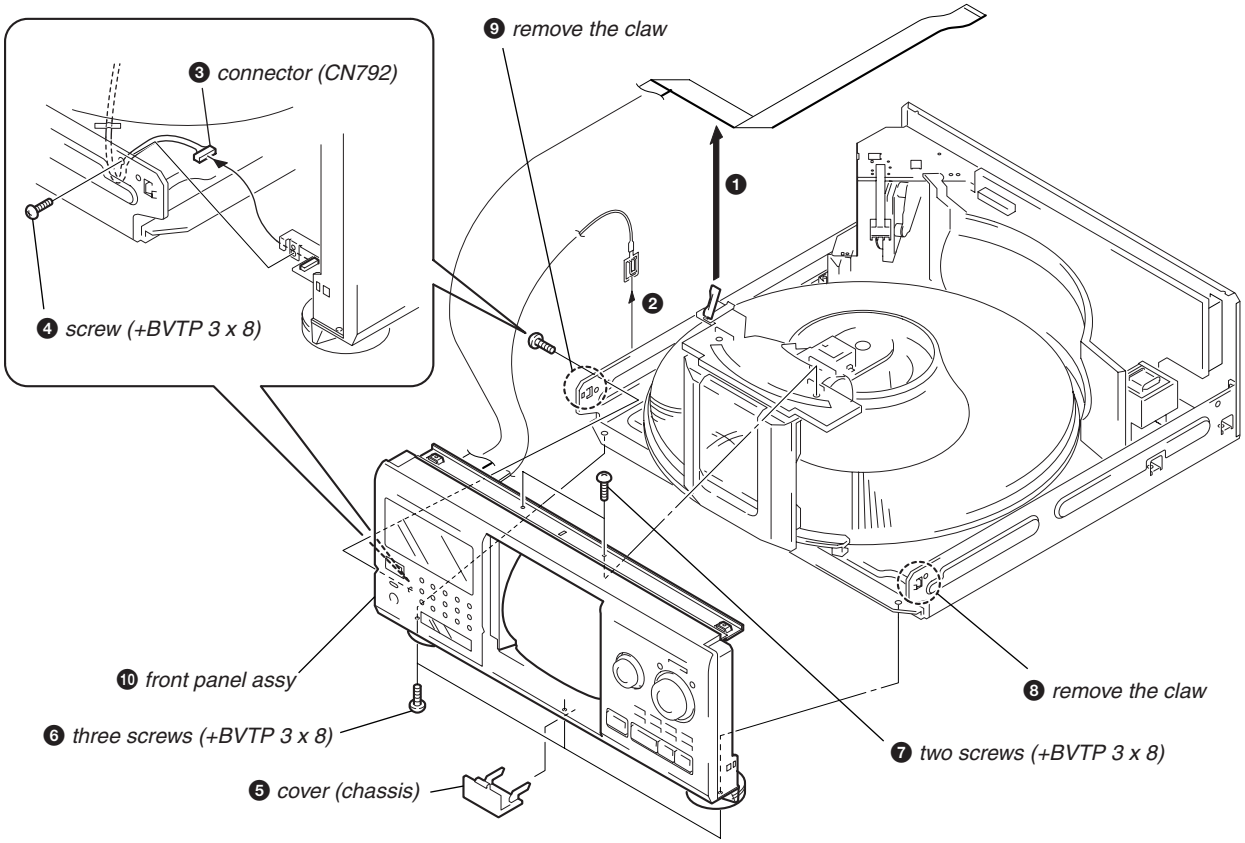
3-1. Case



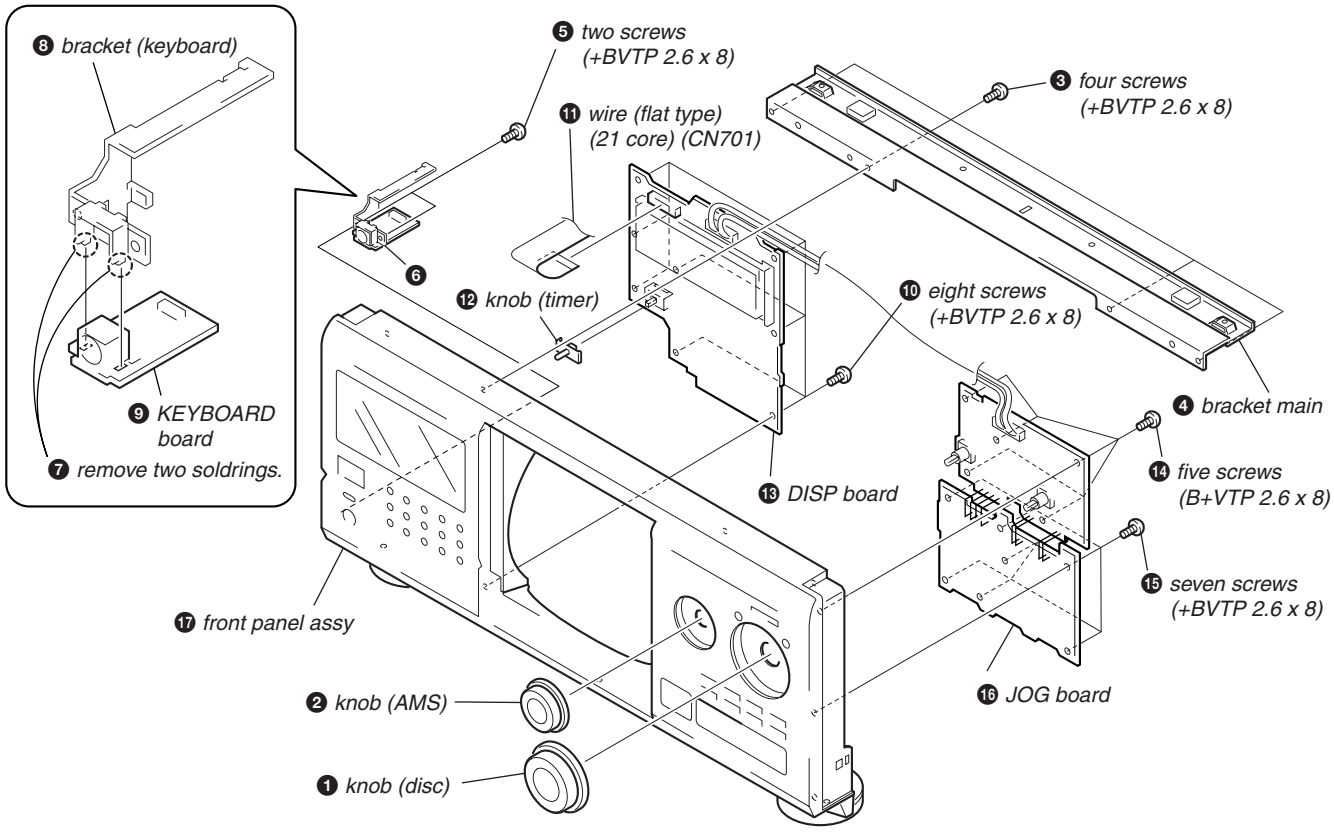
3-2. Bracket (F. W.)



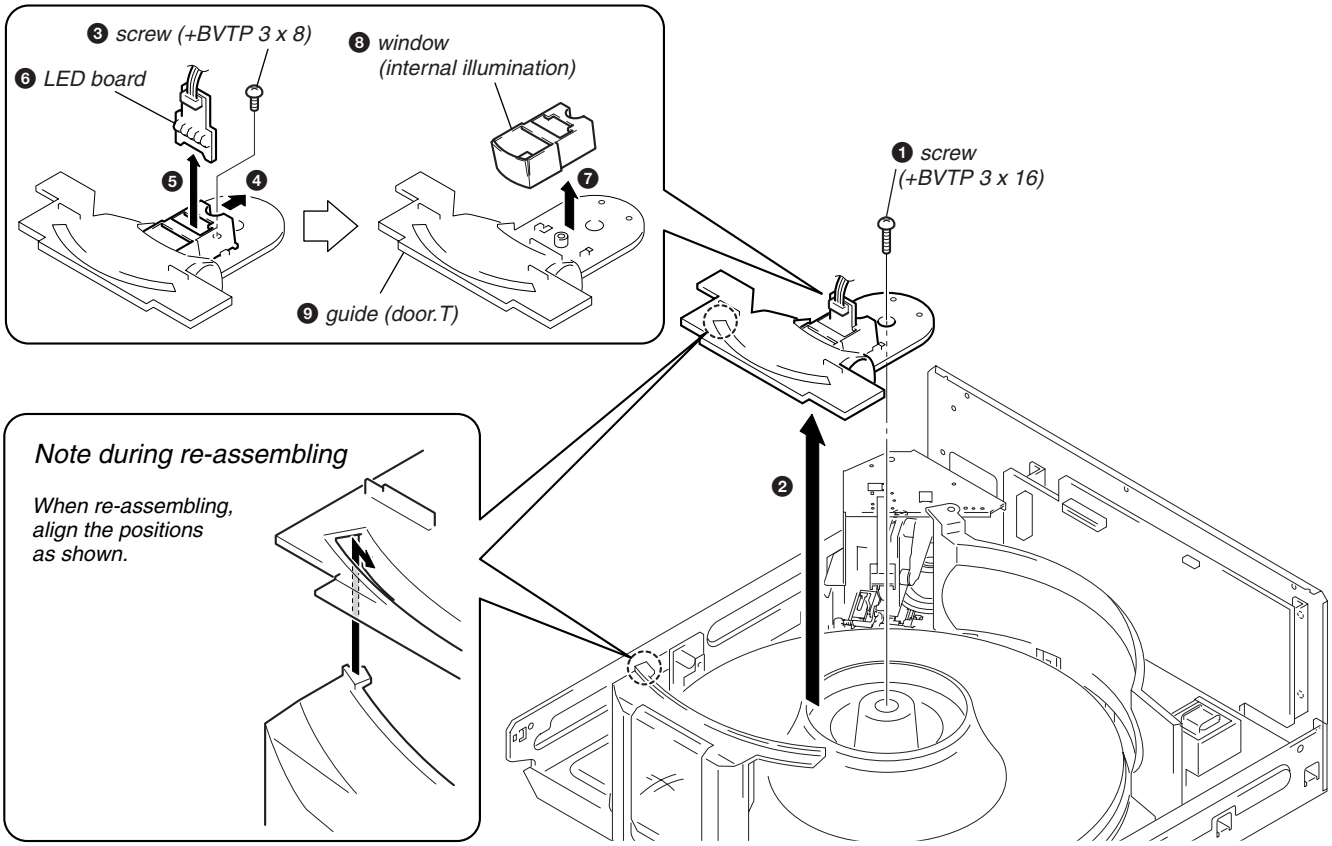
3-3. Front Panel Assy


❾ remove the claw
❸ connector (CN792)
❹ screw (+BVTP 3 x 8)
❶
❷
❿ front panel assy
❻ three screws (+BVTP 3 x 8)
❺ cover (chassis)
❽ remove the claw
❼ two screws (+BVTP 3 x 8)

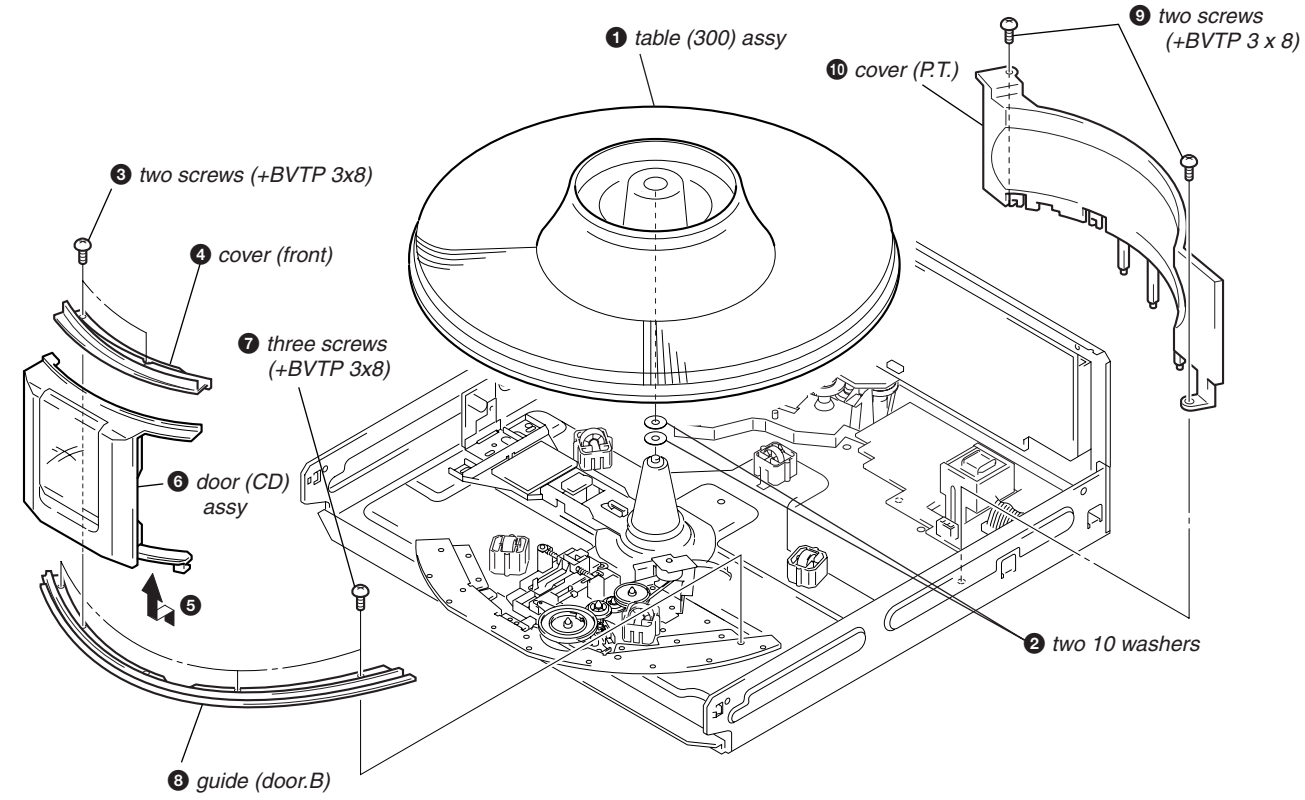
3-4. DISP Board, JOG Board, KEYBOARD Board


❽ bracket (keyboard)
❺ two screws (+BVTP 2.6 x 8)
⓫ wire (flat type) (21 core) (CN701)
❸ four screws (+BVTP 2.6 x 8)
❻
⓬ knob (timer)
❿ eight screws (+BVTP 2.6 x 8)
❹ bracket main
❾ KEYBOARD board
❼ remove two soldrings.
⓭ DISP board
⓮ five screws (B+VTP 2.6 x 8)
⓯ seven screws (+BVTP 2.6 x 8)
⓱ front panel assy
⓰ JOG board
❷ knob (AMS)
❶ knob (disc)

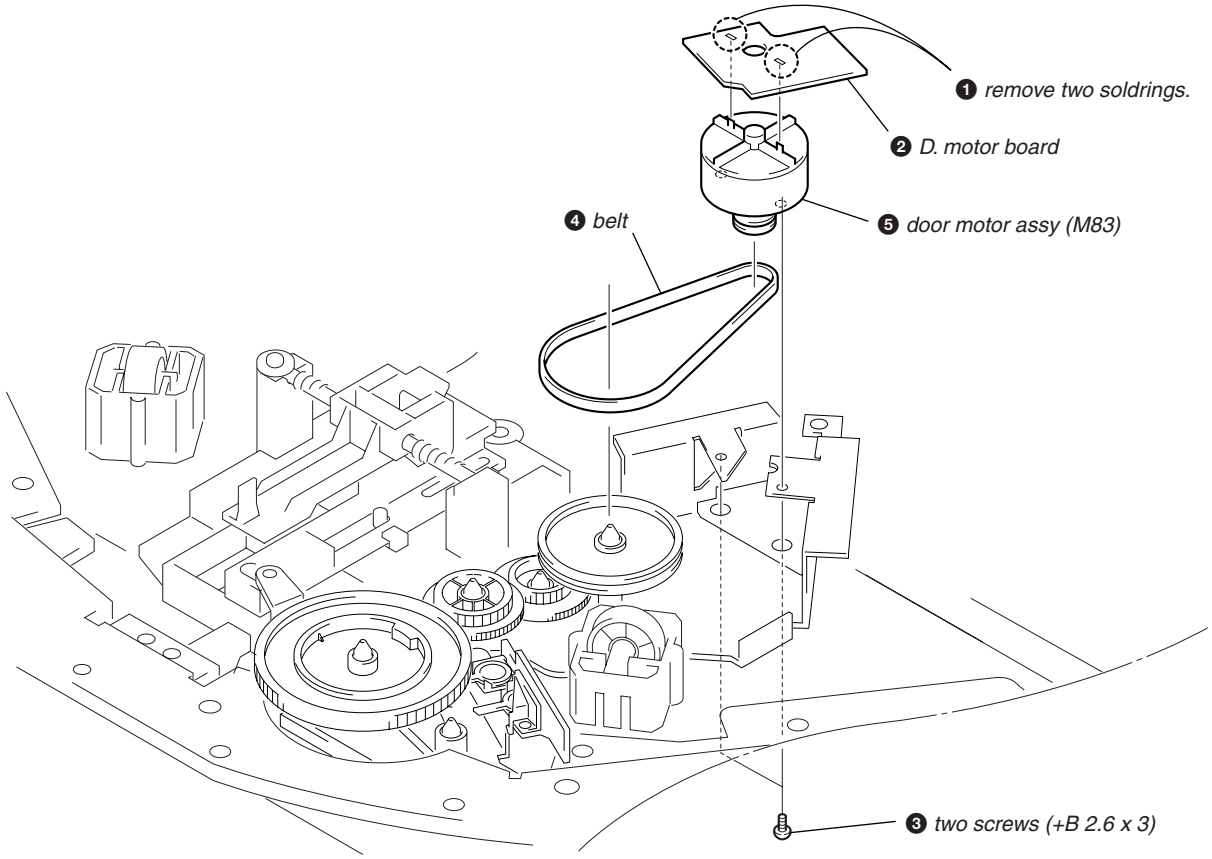
3-5. LED Board, Guide (Door. T)



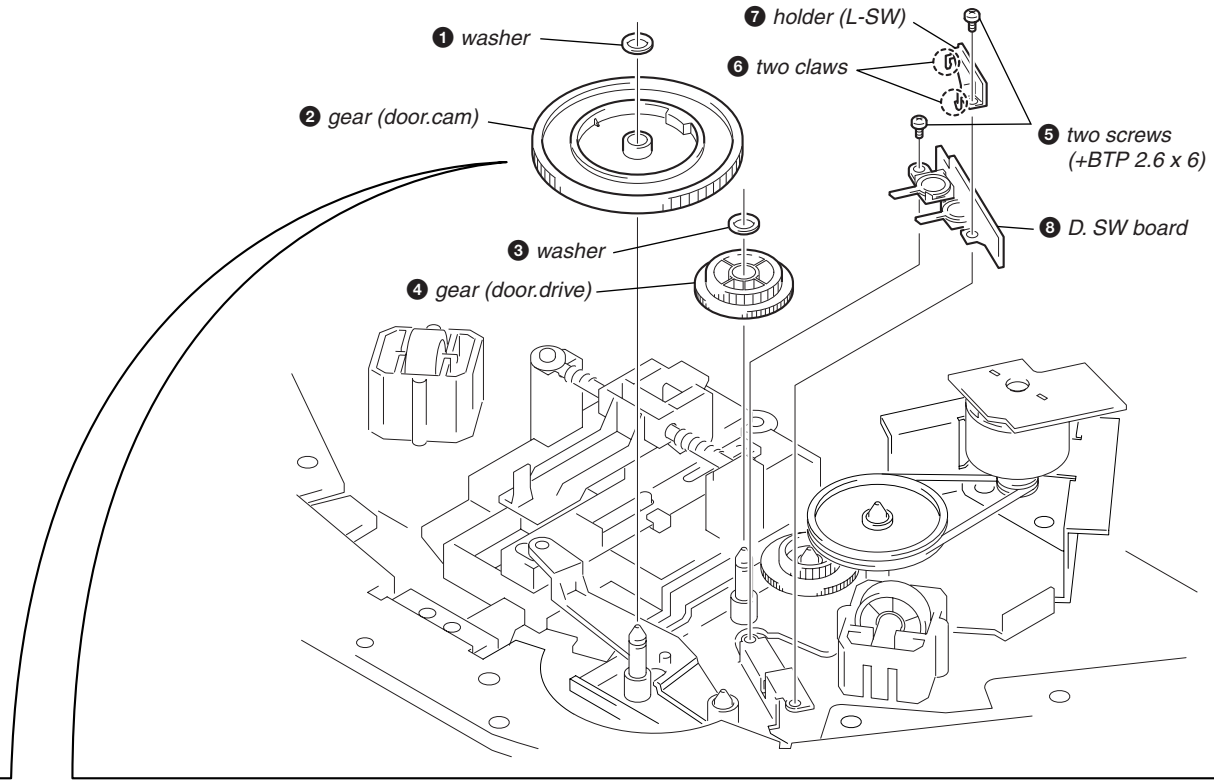
3-6. Table (300) Assy, Cover (P.T.)



3-7. D. MOTOR Board, Door Motor Assy (M83)

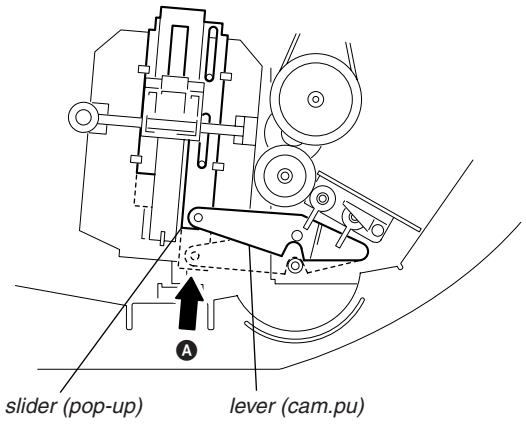


3-8. D. SW Board

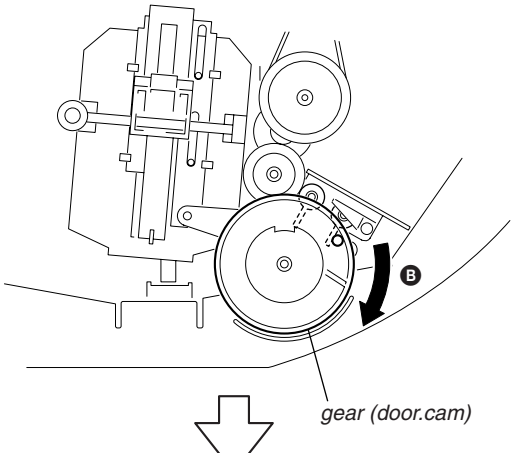


Precaution during the gear (door.cam) installation

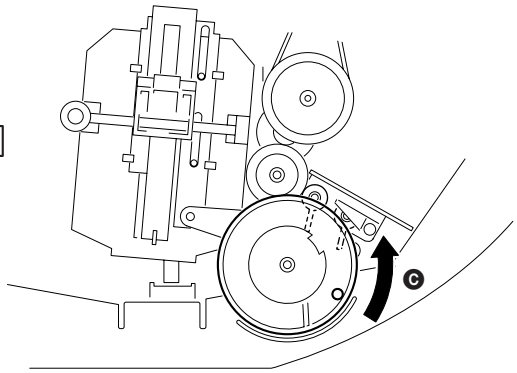
❶ *Move the slider (pop-up) and the lever (cam.pu) fully in the direction of the arrow* Ⓐ.



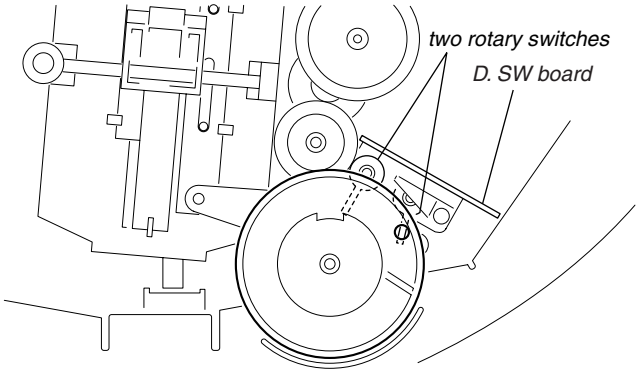
❷ *Install the gear (door.cam) in the direction shown in the illustration and rotate it fully in the direction of the arrow* Ⓑ.



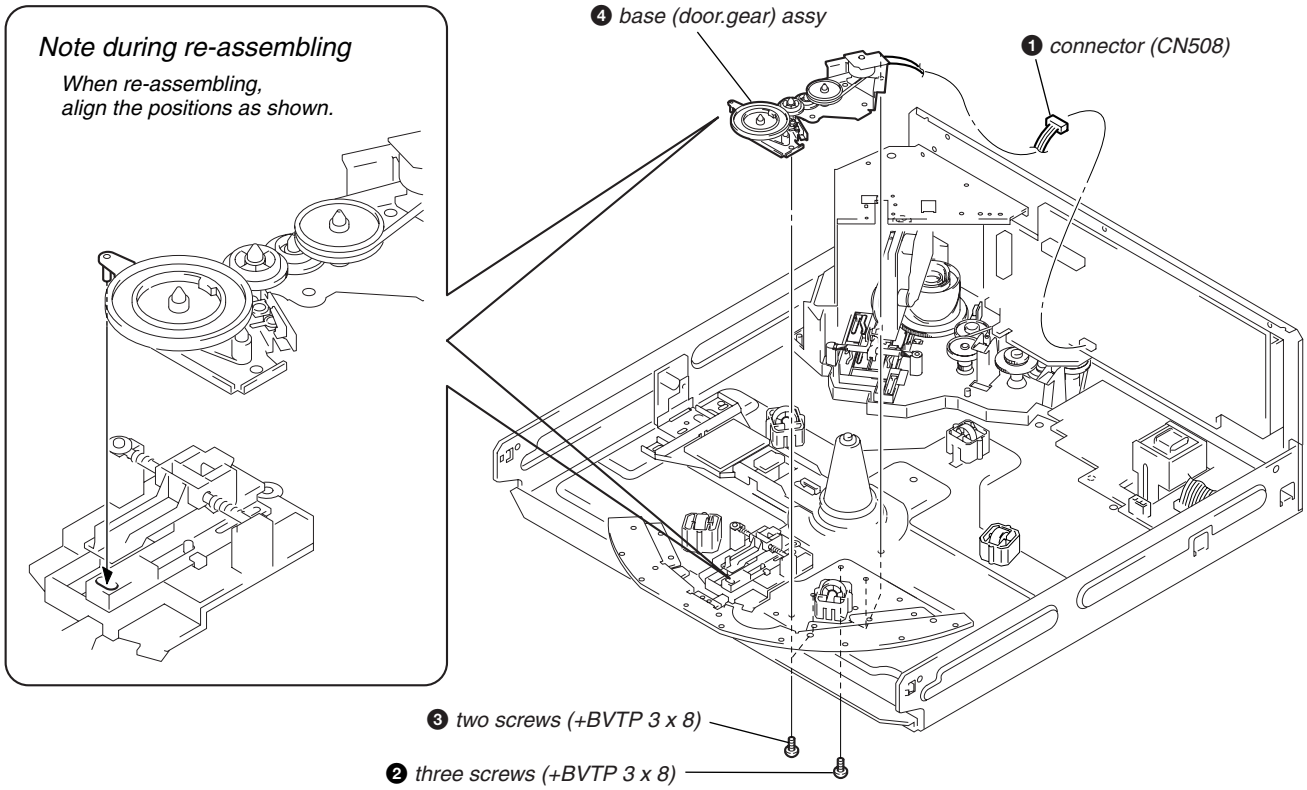
❸ *When the gear (door.cam) happens to go too deep, return it to the original position in the direction of the arrow* Ⓒ.



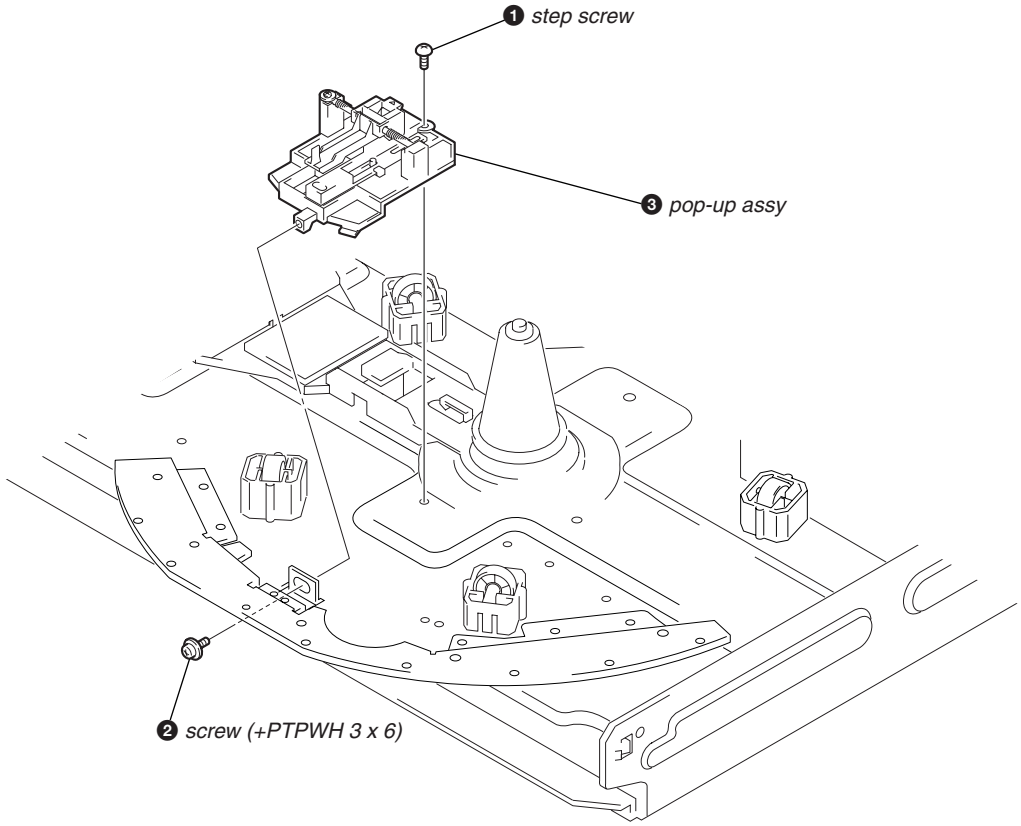
(*The levers of the two rotary switches on the D. SW board are shown in the illustration below.*)



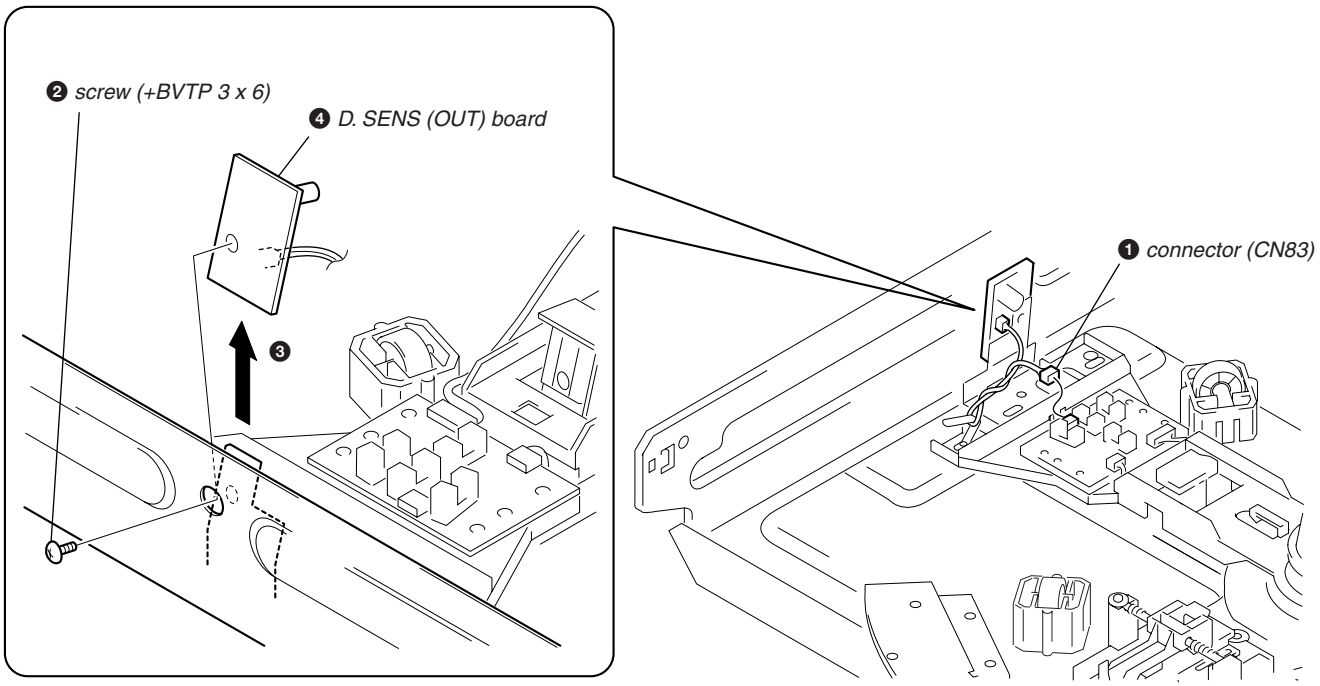
3-9. Base (Door. Gear) Assy


Note during re-assembling
When re-assembling,
align the positions as shown.
❹ base (door.gear) assy
❶ connector (CN508)
❸ two screws (+BVTP 3 x 8)
❷ three screws (+BVTP 3 x 8)

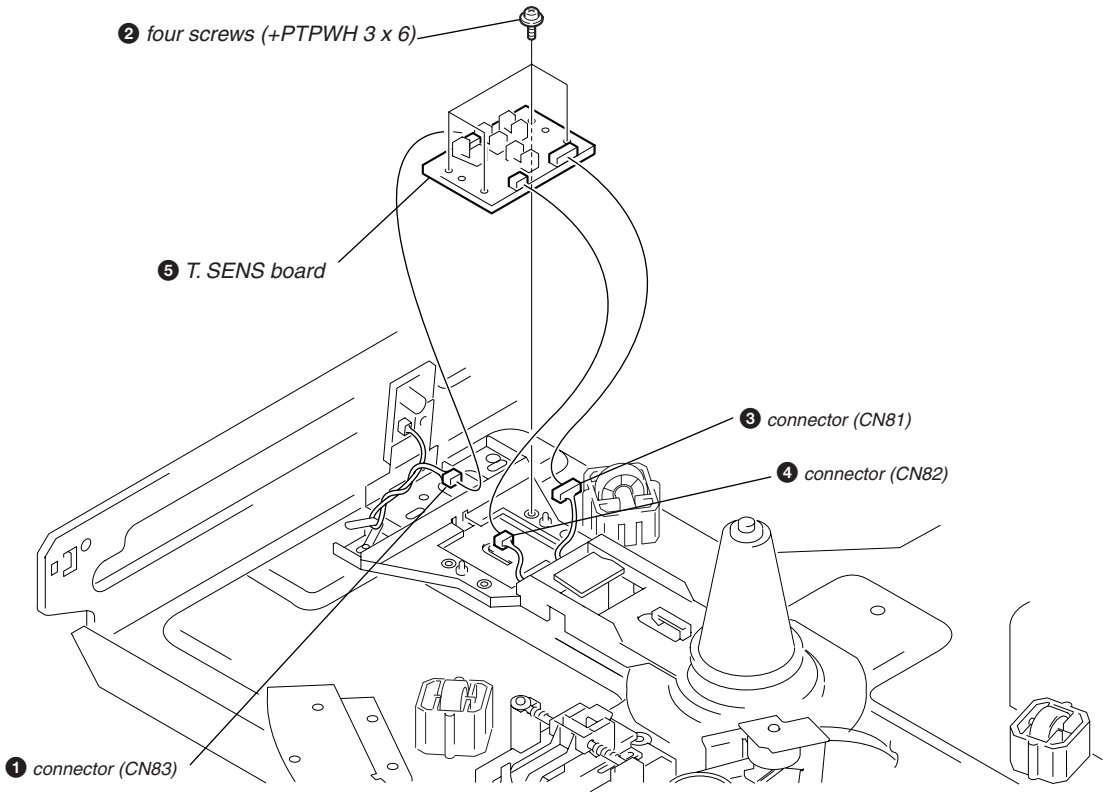
3-10. Pop-up Assy



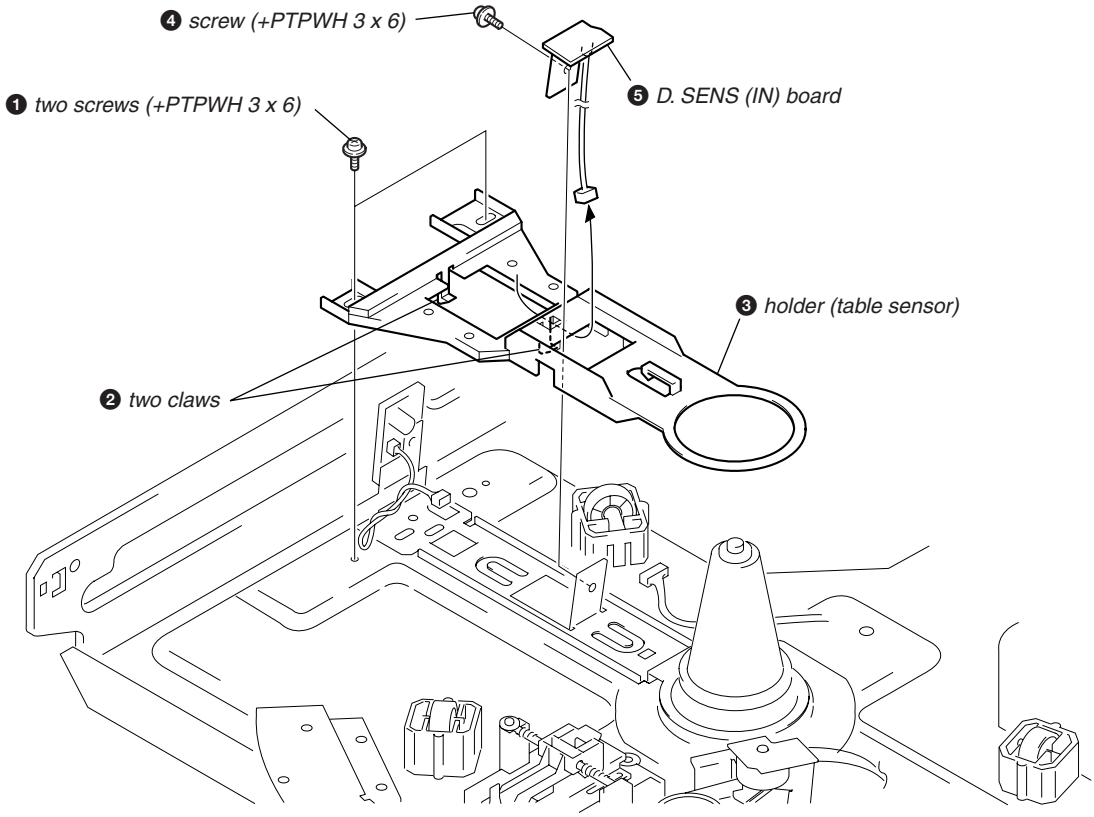
3-11. D. SENS (OUT) Board



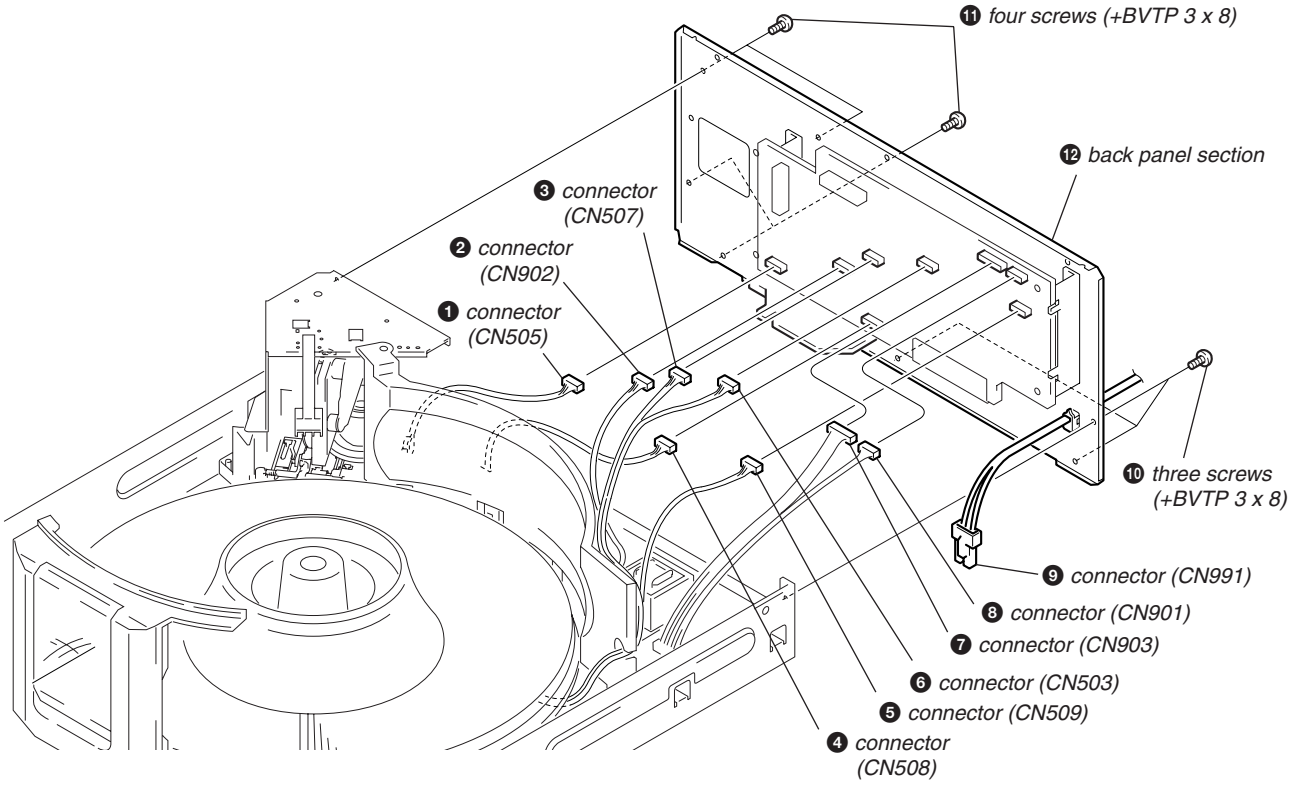
3-12. T. SENS Board



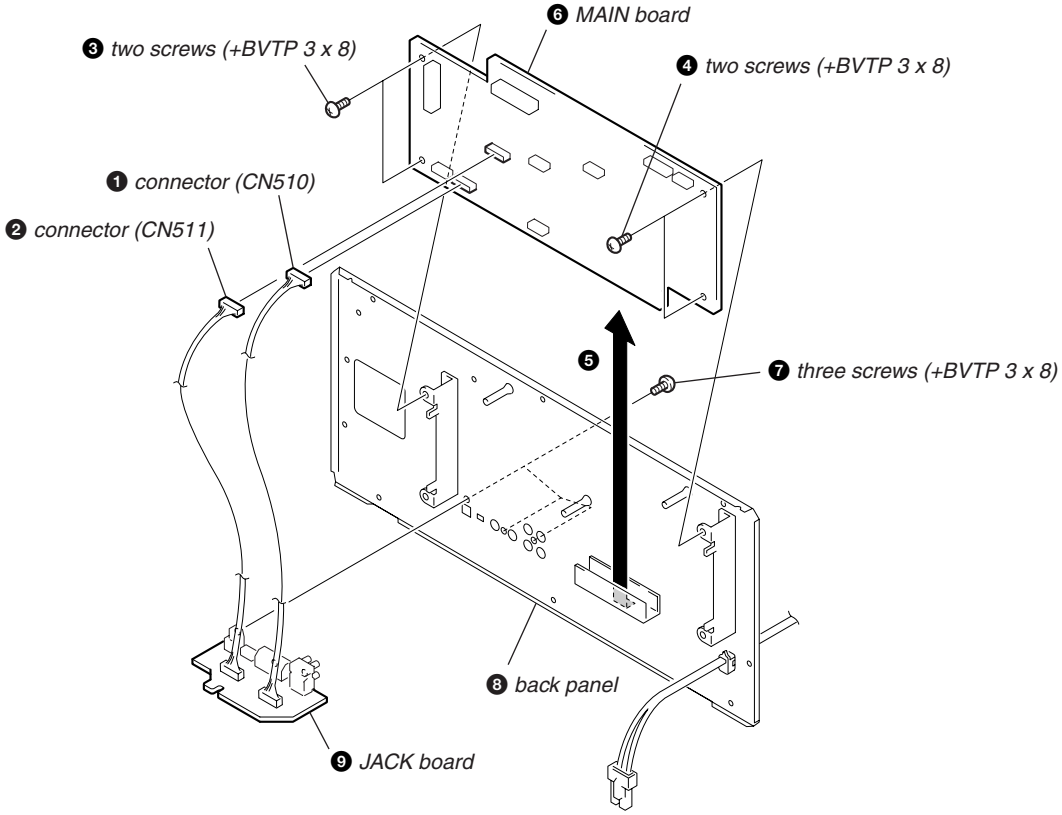
3-13. D. SENS (IN) Board



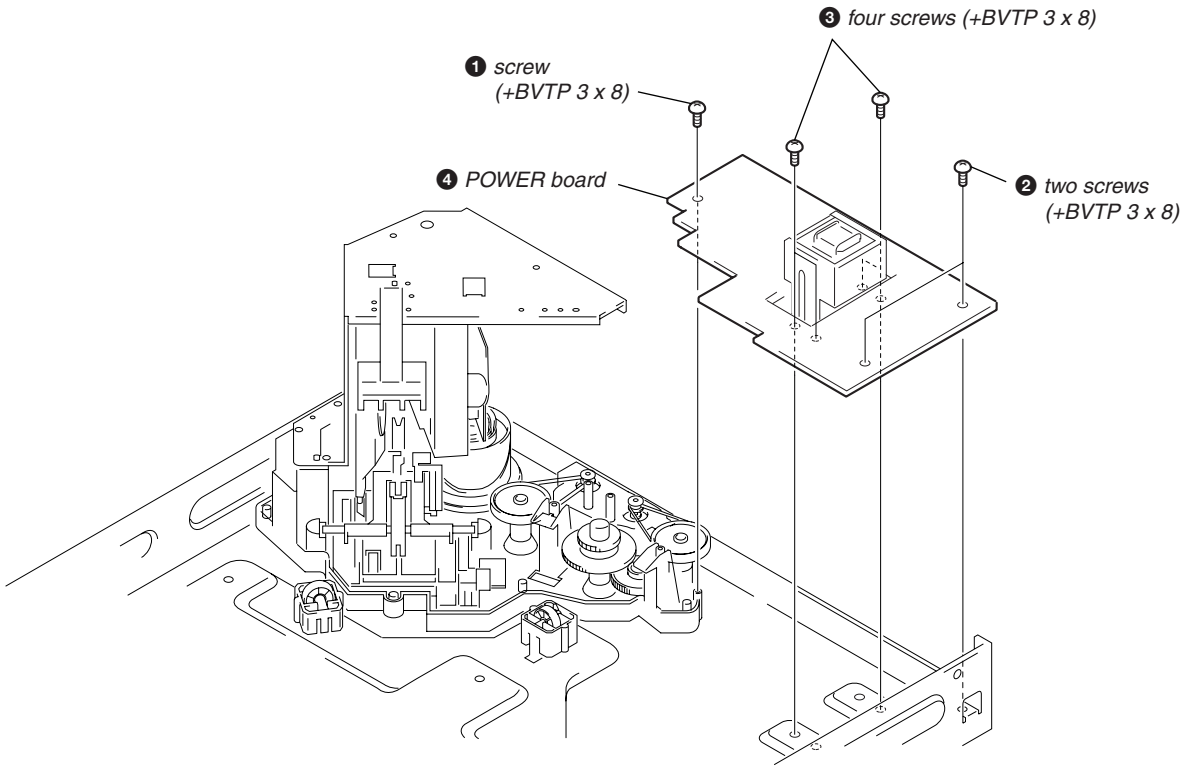
3-14. Back Panel Section



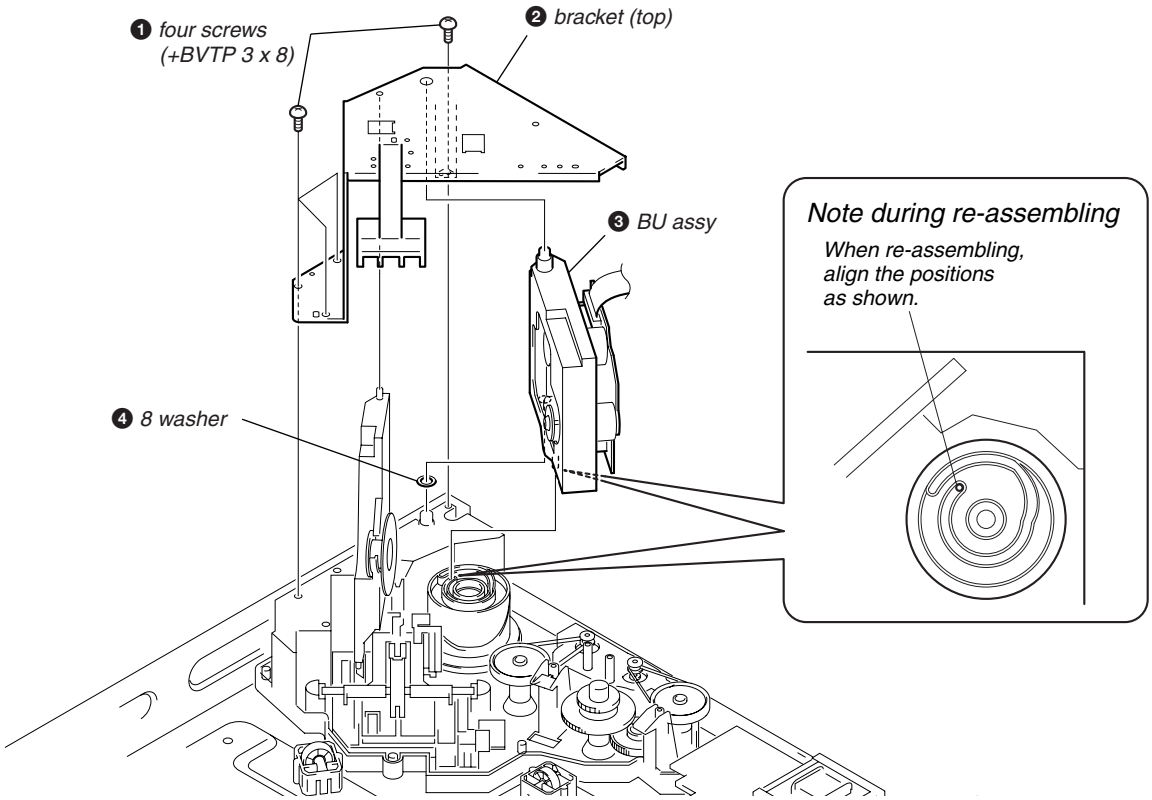
3-15. MAIN Board, JACK Board


❻ MAIN board
❸ two screws (+BVTP 3 x 8)
❹ two screws (+BVTP 3 x 8)
❶ connector (CN510)
❷ connector (CN511)
❺
❼ three screws (+BVTP 3 x 8)
❽ back panel
❾ JACK board

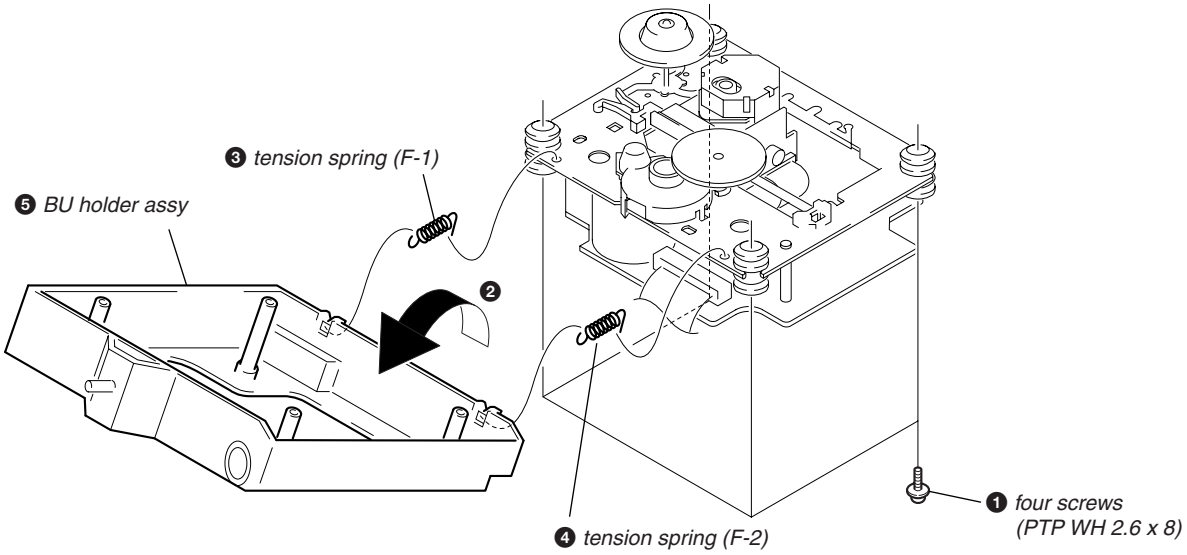
3-16. POWER Board



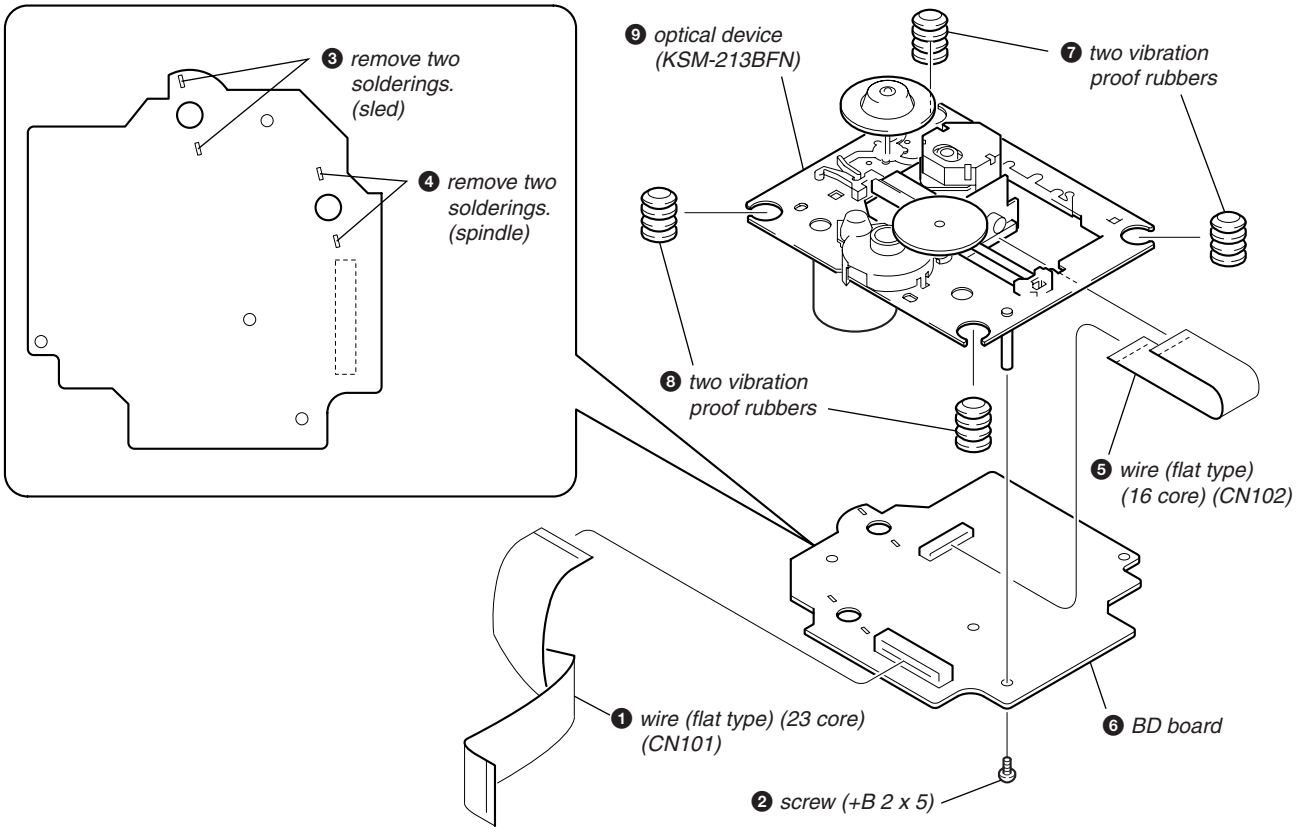
3-17. Bracket (Top) , BU Assy



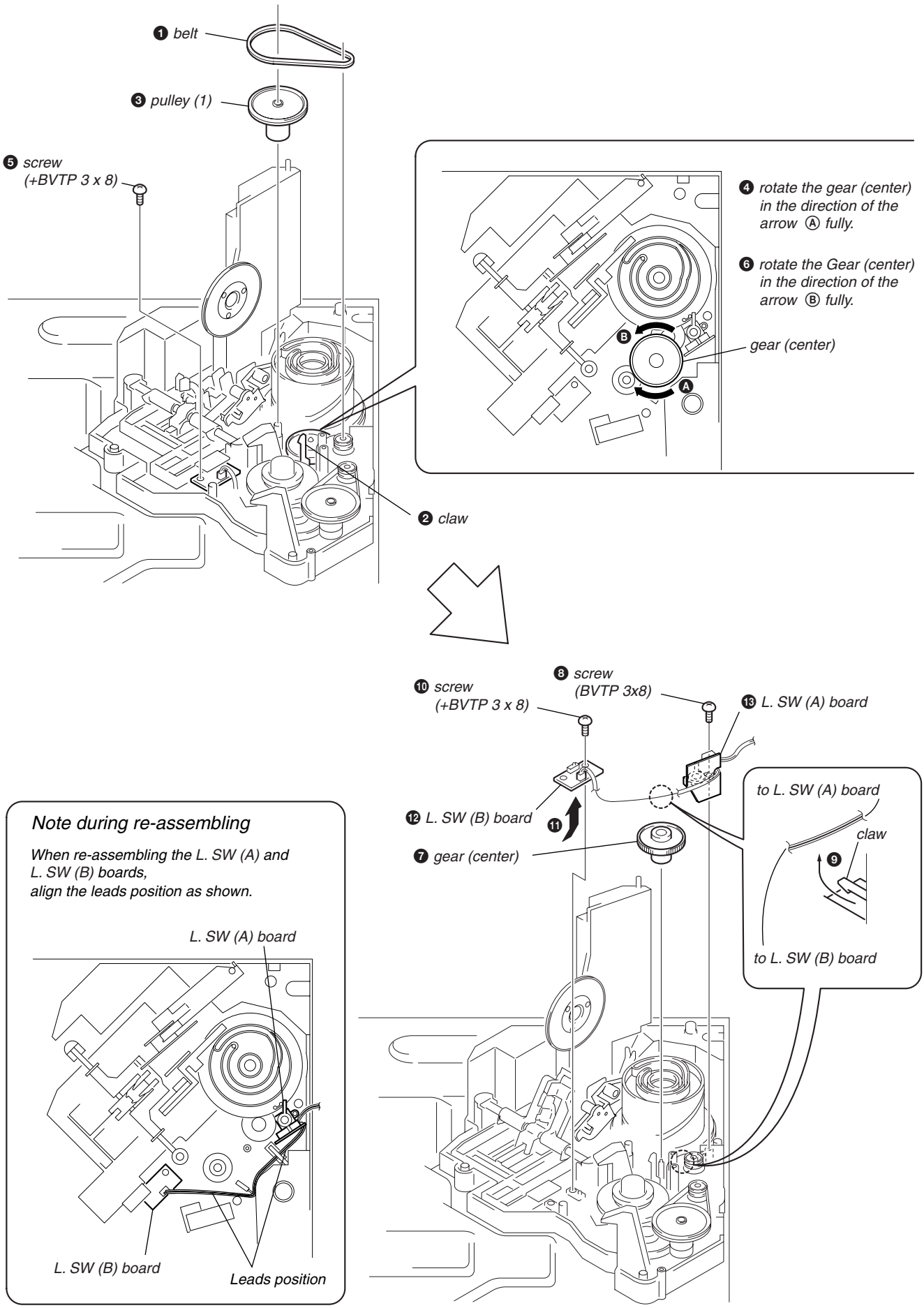
3-18. BU Holder Assy



3-19. BD Board, Optical Device (KSM-213 BFN)


❸ remove two solderings. (sled)
❹ remove two solderings. (spindle)
❾ optical device (KSM-213BFN)
❼ two vibration proof rubbers
❽ two vibration proof rubbers
❺ wire (flat type) (16 core) (CN102)
❶ wire (flat type) (23 core) (CN101)
❻ BD board
❷ screw (+B 2 x 5)

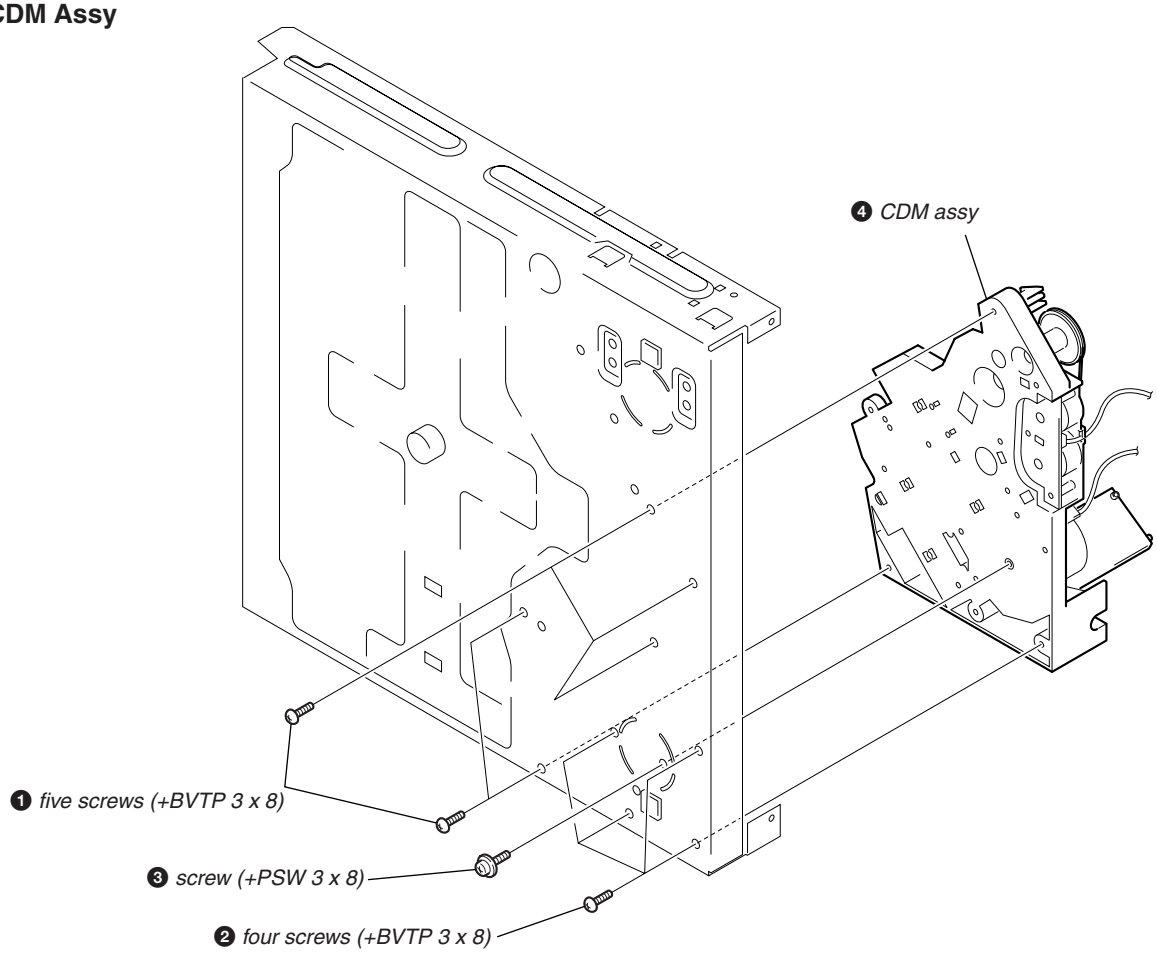
3-20. L. SW (A) Board, L. SW (B) Board


❶ belt
❸ pulley (1)
❺ screw (+BVTP 3 x 8)
❷ claw
❹ rotate the gear (center) in the direction of the arrow Ⓐ fully.
❻ rotate the Gear (center) in the direction of the arrow Ⓑ fully.
gear (center)
B
A
❽ screw (BVTP 3x8)
❿ screw (+BVTP 3 x 8)
⓭ L. SW (A) board
⓬ L. SW (B) board
⓫
❼ gear (center)
to L. SW (A) board
claw
❾
to L. SW (B) board

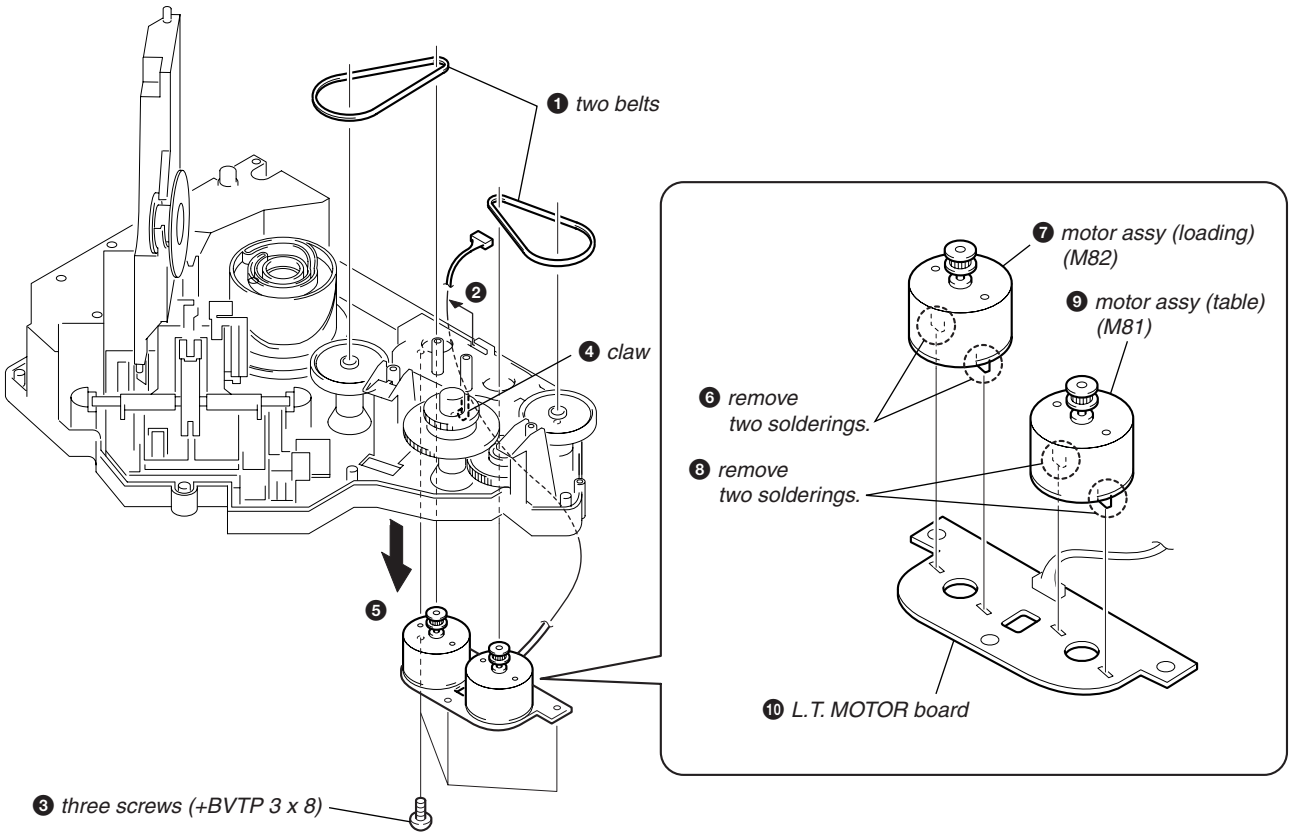
Note during re-assembling

When re-assembling the L. SW (A) and L. SW (B) boards, align the leads position as shown.

3-21. CDM Assy



3-22. Motor Assy (Loading) (M82) , Motor Assy (Table) (M81) , L.T. MOTOR Board



SECTION 4
SERVICE MODE

SPECIAL FUNCTION

This unit is provided with several service modes.
Details are shown in the following table.

Mode name	Power supply state	Button operation	Remarks
ALL ERASE	OFF	CLEAR + I/⏻	Note 1
AGING MODE	ON	GROUP 1 + ⏏ OPEN/CLOSE + +100	
LOARDING AGING MODE	ON	GROUP 2 + ⏏ OPEN/CLOSE + +100	
TABLE AGING MODE	ON	GROUP 3 + ⏏ OPEN/CLOSE + +100	
DOOR POP UP AGING MODE	ON	GROUP 4 + ⏏ OPEN/CLOSE + +100	
TABLE LOTATION MODE	ON	GROUP 5 + ⏏ OPEN/CLOSE + +100	Used in adjustment
TITLE MEMO SHIFT MODE	ON	GROUP 7 + ⏏ OPEN/CLOSE + +100	
MODEL NAME DISPLAY	ON	GROUP 1 + ▷ + +100	
MICROPROCESSOR VERSION DISPLAY	ON	GROUP 2 + ▷ + +100	
ALL LIT MODE	ON	GROUP 3 + ▷ + +100	
MECHANISM ADJUSTMENT MODE	ON	GROUP 4 + ▷ + +100	
SHIPMENT MODE	ON	GROUP 5 + ▷ + +100	Note 1
TITLE MEMO RECORDING CHECK MODE	ON	GROUP 6 + ▷ + +100	Note 1

Note 1
Do not execute unless with a proper reason, otherwise the memory of the title memo recorded by the customer will be erased.
The title memo recording check mode is not required for servicing. Do not execute.

ALL ERASE

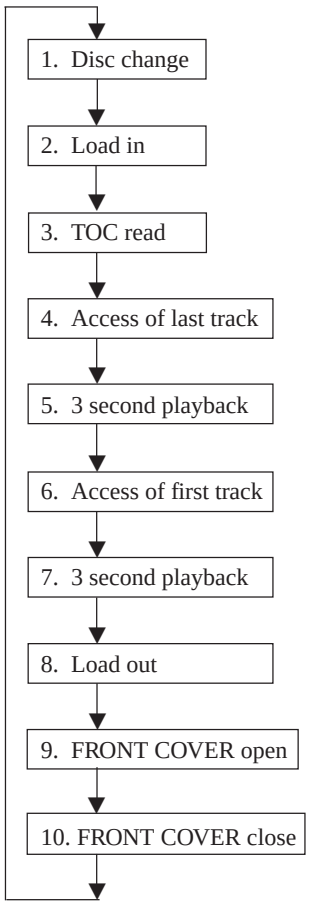
This mode is used for clearing information such as the title memo. Do not execute if information such as the title memo is not to be erased.

Procedure:
While pressing the CLEAR button with the power OFF, press the I/⏻ button and turn on the power.
The fluorescent display tube displays “ALL ERASE” and all memories will be cleared.

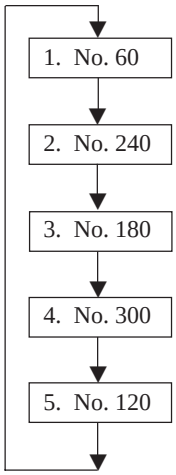
AGING MODE

- Mode which repeatedly changes and plays back discs automatically in the unit.
- It will repeat aging as long as no errors occur.
- If an error occurs during aging, it will stop all servos, motors, etc. instantaneously, display the error number, and stop operations. However, the stopping conditions differ according to whether the unit is equipped with the “self-protection function during errors” described later.
  The function serves to maintain the state of the unit when errors occur.

Sequence of Aging Mode



Order of Disc Change
(1 cycle takes 3 minutes)



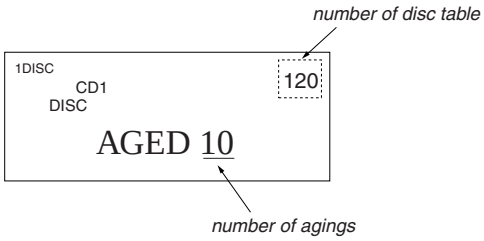
Special Aging Mode Functions

The aging mode is provided with the following convenient functions
- Disc setting mode (*1)
- Selection of presence of protection function during error (*2)
- Count function of aging cycle (*3)

*1 Disc setting mode:
5 discs are set before setting the aging mode. This mode makes the setting of these discs more easy.

*2 Self protection function during errors:
Function which voluntarily corrects errors which occur during normal operations by retries.
If this function is not provided, all operations will be stopped without retiring. It is suitable for checking errors with low reproducibility.
If this function is provided, and errors can be corrected by retries, aging will be continued without stopping.

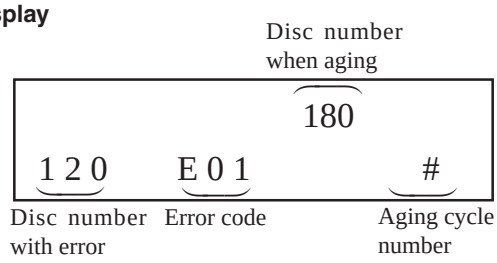
*3 Aging cycle count function:
Functions which displays the number of agings carried out on the Fluorescent indicator tube in numbers. One aging cycle consists of five discs.



Aging Procedure

1. Turn ON the power of the unit. Press the ⏏ OPEN/CLOSE and open the front cover.
2. Change the COMMAND MODE switch (S902) on set to CD1.
3. Press the AGING START button of the remote commander for aging mode (J-2501-123-A).
4. When the disc set mode is set, the ▷ and ❚❚ LEDs blink.
5. Rotate the DISC/CHARACTER dial. The slits (No. 60, 120, 180, 240, 300) for setting the discs will come forward. Insert the discs into these slits. Do not set the discs in other slits.
6. Set whether the self-protection function during errors is equipped with the unit. Press the REPEAT button. If "REPEAT" is displayed on the Fluorescent indicator tube, it means the function is provided. If "REPEAT" is not displayed, it means the function is not provided.

Error Display



7. Press the ▷ button.
8. The ▷ LED blinks, the aging mode is set, and aging is started.
9. The aging cycle lasts 3 minutes. If errors occur during aging, the error number will be displayed on the Fluorescent indicator tube. (Refer to the following table for the details of the errors.)
10. Aging will be repeated as long as no errors occur.
11. After each aging cycle, the number displayed on the Fluorescent indicator tube will increase.
12. To end aging, disconnect the power cord from the outlet.

NOTE: As an alternative to steps 2 and 3, press the GROUP 1 button, ⏏OPEN/CLOSE button, and +100 button at the same time.

Error code

Code number	Name	Contents
Err 01	DISC sensor check 1	No disc in the specified slit
Err 02	DISC sensor check 2	Disc in other slits
Err 03	Table operation check 1	Table motor current over
Err 04	Table operation check 2	No table sensor input
Err 05	Loading operation check 1	Load in timeover
Err 06	Loading operation check 2	Load out timeover
Err *1	BU related check 1	Access timeover
Err *2	BU related check 2	High speed search NG
Err *3	BU related check 3	Q data read error
Err *4	BU related check 4	BU operation (from focus search to until signal can be read) timeover
Err *5	BU related check 5	GFS monitor error
Err *6	BU related check 6	Focus cannot be imposed by focus search
Err *7	BU related check 7	Auto focus bias adjustment cannot be performed

The following * numbers mean according to the state of the unit during aging
*2 : From chucking to end of TOC read
*3 : From end of TOC read to end of last track playback
*4 : From end of last track playback to end of first track playback

LOADING AGING MODE

- This mode is used for repeating loading operations continuously.
- Aging will be performed continuously unless an error occurs.
- When an error occurs, the error code will be displayed on the fluorescent indicator tube.

Procedure:

1. Set a disc in the DISC 1 slit.
2. With the power ON, while pressing the GROUP 2 button and ⏏ OPEN/CLOSE button, press the +100 button.
3. When the mode is set, both the ▷ and ❚❚ indicators will start to blink.
4. When the ▷ button is pressed, only the ▷ indicator will blink and aging starts.
5. To end the mode, press the I/⏻ button or disconnect the power cord from the outlet.

The error codes displayed during operations and when errors occur are the same as the **"AGING MODE"** described earlier.

TABLE AGING MODE

- This mode is used for rotating the table randomly.
- Aging will be performed continuously unless an error occurs.
- When an error occurs, the error code will be displayed on the fluorescent indicator tube.

Procedure:

1. Set discs in slits 1, 2, 99, 100, and 200.
2. With the power ON, while pressing the GROUP 3 button and ⏏ OPEN/CLOSE button, press the +100 button.
3. When the mode is set, both the ▷ and ❚❚ indicators will start to blink.
4. When the ▷ button is pressed, only the ▷ indicator will blink and aging starts.
5. To end the mode, press the I/⏻ button or disconnect the power cord from the outlet.

During aging, operations will be carried out sequentially in the order of No. 1, No. 2, No. 100, No. 99, and No. 200 slits.

The error codes displayed during operations and when errors occur are the same as the **"AGING MODE"** described earlier.

DOOR POP UP AGING MODE

- This mode is used for performing aging of the CD pop up part and door open/close.
  It is used for checking if operations are performed normally.

Method:

1. To select a slot to be aged, press the ⏏ OPEN/CLOSE button and rotate the DISC/CHARACTER knob with the front door opened to select a number.
2. With the power ON, while pressing the GROUP 4 button and ⏏ OPEN/CLOSE button, press the +100 button.
3. When the ▷ button is pressed, aging starts, and door open/close and up/down operations of the pop up part are performed continuously.
4. To end the mode, press the I/⏻ button.

If DISC is not selected at step 1, aging will be performed at the 192 slot.
The number of times aging is performed will be displayed on the fluorescent indicator tube during operations.

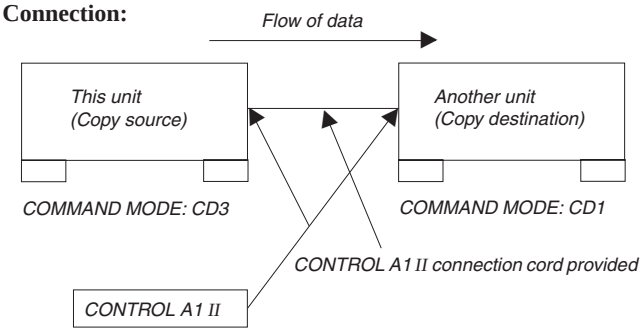
TABLE ROTATION MODE

- This mode is used for electrical adjustments. Refer to the section on Electrical Adjustments.

TITLE MEMO SHIFT MODE

- This mode is used for writing title memo information recorded in this unit in a different unit.
  Use it for transferring disc memo contents written by the customer to the new units when replacing the unit, etc.

Connection:



Procedure:

1. Connect two units using the CONTROL A1 II connection cord shown in the figure.
2. Set the COMMAND MODE switch of the copy source unit to CD3 and the COMMAND MODE switch of the copy destination unit to CD1.
3. With the power on, while pressing the GROUP 7 button and ⏏ OPEN/CLOSE button of the copy destination unit, press the +100 button.
4. When the data has been transferred, the fluorescent indicator tube displays "complete" for about 1 second.

MODEL NAME DISPLAY

- Model names can be displayed on the fluorescent indicator tube for checking the microprocessor model setting, etc.

Procedure:
With the power ON, while pressing the GROUP 1 and ▷ buttons, press the +100 button.
The model name is displayed on the fluorescent indicator tube.

MICROPROCESSOR VERSION DISPLAY

- The microprocessor version can be displayed on the fluorescent indicator tube.

Procedure:
With the power ON, while pressing the GROUP 2 and ▷ buttons, press the +100 button.
The microprocessor version is displayed on the fluorescent indicator tube.

ALL LIT MODE

- This mode is used for lighting the whole fluorescent indicator tubes and LEDs.

Procedure:
With the power ON, while pressing the GROUP 3 and ▷ buttons, press the +100 button.
Both the fluorescent indicator tubes and LEDs will light up completely.
To end this mode, press the I/⏻ mode.

MECHANISM ADJUSTMENT MODE

- This mode is used for mechanism adjustments. Refer to the section on Mechanism Adjustments.

SHIPMENT MODE

- This mode is used for setting the unit to the shipment state. Do not execute it without a proper reason as it erases the memory of the title memo recorded by the customer.

Procedure:

Set the [COMMAND MODE] switch to [CD1] and the [TIMER] switch to OFF. Next, with the power ON, while pressing the [GROUP 5] button and [▷] button, press the [+100] button. If the switch state is normal, the model name will be displayed on the fluorescent indicator tube and the unit will set into the shipment mode.
If the various switches are not set to their designated positions, error codes will be displayed on the fluorescent indicator tube.

TITLE MEMO RECORDING CHECK MODE

This mode is not required for servicing. Do not execute without a proper reason.
If executed, the memory of the title memo recorded by the customer will be erased.

SECTION 5
TEST MODE

5-1. ADJ Mode

1. Turn ON the power of the unit, set disc to disc table, and perform chucking.
2. Disconnect the power supply plug from the outlet.
3. To set ADJ mode, connect the test point (ADJ) of the MAIN board to Ground, and connect the power supply plug to the outlet.

In this mode, table rotation and loading operations are not performed because it is taken that the disc has already been chucked.

Note: The same operations are also performed in the following when the test point (ADJ) is connected to Ground after turning on the power.

- Direct search (movement of sledding motor) is not performed during accessing
- Ignored even when GFS becomes L
- Ignored even when the Q data cannot be read
- Focus gain does not decrease

ADJ Mode Special Functions Table
(The buttons shown with ( ) function by using the supplied remote commander only)

Button	Function
CONTINUE	Servo average display Displays VC, FE, RF, TE and traverse in hexadecimal numbers
SHUFFLE	Focus bias display Each time this is pressed, the focus bias is switched between (1) and (2) (1) Bias actually set Optimum bias Minimum jitter (2) U:Upper aliasing bias L:Lower aliasing bias
PROGRAM	Auto gain display Displays focus, tracking, sledding in hexadecimal numbers
GROUP 3 (3)	Turns off the tracking and sledding servo
GROUP 8 (8)	Turns on the tracking and sledding servo
CHECK	S-curve observation mode. (Exits this mode when the I/⏻ button is pressed.)

5-2. Key and Display Check Mode

To set this mode, connect the test point (AFADJ) on the MAIN board to Ground, and connect the power supply plug to the outlet.

Note: When this mode is executed, all title memos recorded will be erased.

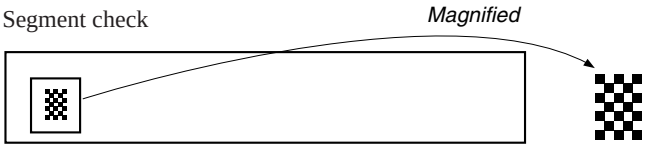
- When this button is pressed, “line # No. #” will be displayed. However, these will not be displayed for the following special buttons. However, these will not be displayed for the following special buttons.

■ (stop) button: FL segment check
(Refer to FL Tube Check Patterns)
❚❚ (pause) button: FL grid check
(Refer to FL Tube Check Patterns)
The ❚❚ LED also light up simultaneously.
▷ (play) button: All FL segment and grid will light up.
All LEDs also light up simultaneously.
TIMER switch: When the switch position is PLAY , the STANDBY LED light up. It goes off when set to OFF.

Each time this button is pressed, the value of the “Got ## keys” increases. Buttons pressed once will not be counted when pressed again.

FL Tube Check Patterns

Segment check

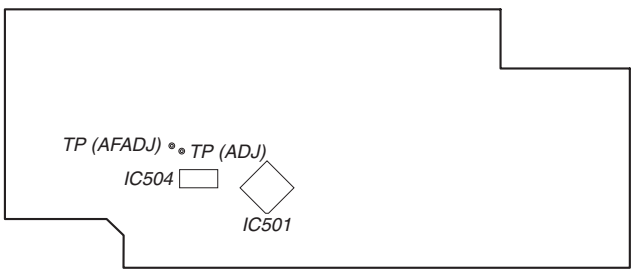


Grid check

- When the jog dial is rotated to the right, the GROUP LEDs light up in the order of 1→2..8→HIT LIST→EASY PLAY→MEGA CONTROL→1.
- When the jog dial is rotated to the left, the GROUP LEDs light up in the order of 8→ 7..1→ MEGA CONTROL→ EASY PLAY→HIT LIST→8.

• Abbreviation
FL: Fluorescent Indicator Tube

[MAIN BOARD] – Cnductor Side –



SECTION 6
ADJUSTMENTS

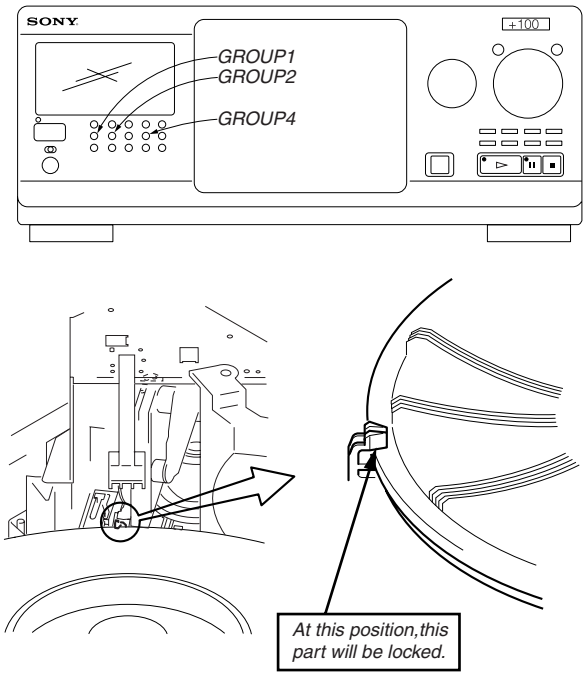
6-1. Mechanical Adjustments

Pop Up Mechanism Adjustment

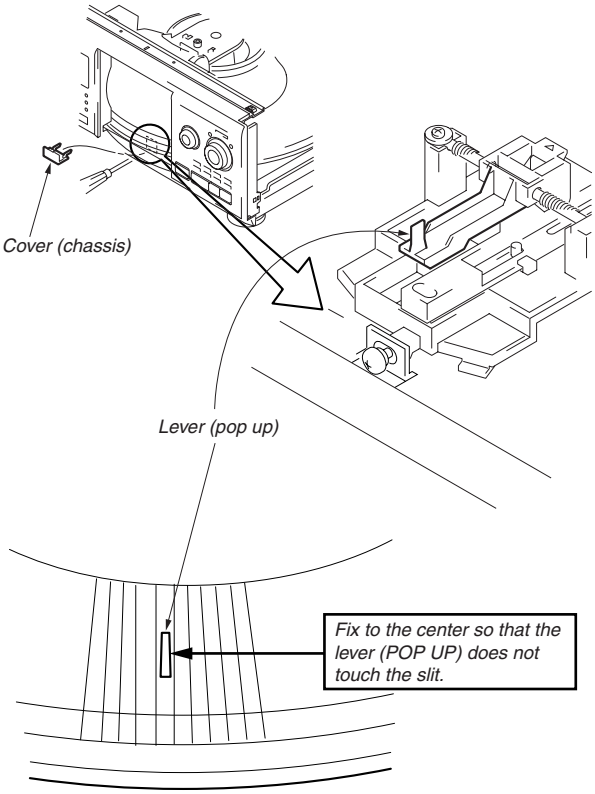
1. With the power ON, while pressing the GROUP 4 and ▷ buttons, press the +100 button to enter the mechanism adjustment mode.
2. Press the GROUP 1 button to operate the loading mechanism, and continue pressing until the disc table locks. (Fig-1)
3. Press the GROUP 2 button to raise the pop up part.
4. Remove the cover (chassis), loosen the adjusting screw, move the screwdriver left and right until the lever (POP UP) does not touch the slit wall, and secure the screw. (Fig-2)

The following buttons have special functions in this mode.

GROUP 1 button: Loading mechanism IN operation
GROUP 5 button: Loading mechanism OUT operation
GROUP 2 button: Pop up part UP operation
GROUP 6 button: Pop up part DOWN operation



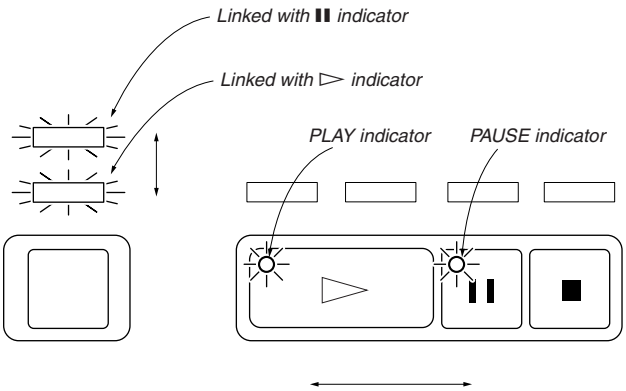
Flg-1

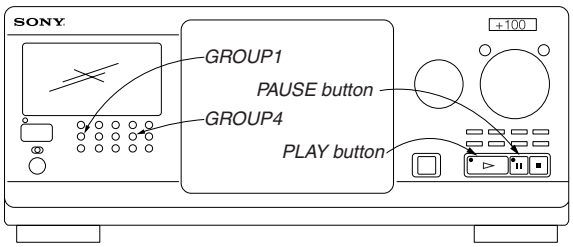


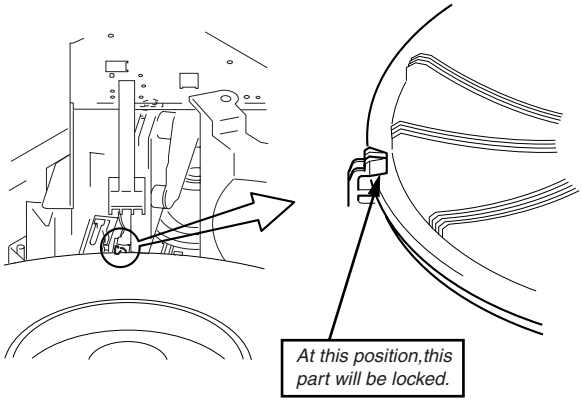
Flg-2

Sensor Adjustment

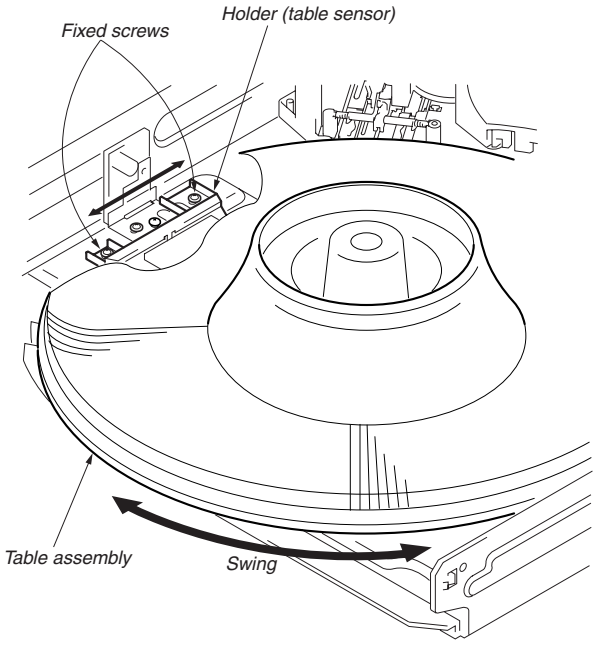
1. With the power ON, while pressing the GROUP 4 and ▷ buttons, press the +100 button to enter the mechanism adjustment mode.
2. Press the GROUP 1 button to operate the loading mechanism, and continue pressing until the disc table locks. (Fig-3)
3. Loosen the fixing screw, move the holder (TABLE SENSOR) slightly, and when the LED (green) of the PLAY button switches to the LED (orange) of the PAUSE button (or vice versa), secure the holder (TABLE SENSOR). (Fig-4)
4. Moving the disc table right and left with a hand after the screw is fixed, the table will move by the play of a disc table. If the LEDs light up alternately, the adjustment will be performed correctly. (Fig-4)







Flg-3

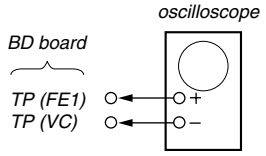


Flg-4

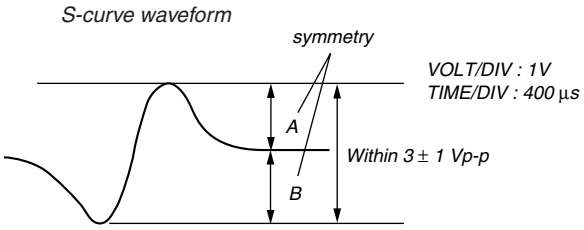
6-2. Electrical Adjustment

Note:
1. CD Block is basically designed to operate without adjustment. Therefore, check each item in order given.
2. Use YEDS-18 disc (3-702-101-01) unless otherwise indicated.
3. Use an oscilloscope with more than 10MΩ impedance.
4. Clean the object lens by an applicator with neutral detergent when the signal level is low than specified value with the following checks.

S-Curve Check



Procedure :
1. Chuck the disc (YEDS-18) beforehand, and disconnect the power cord from the outlet.
2. Connect oscilloscope to test point TP (FE1) on BD board.
3. Connect test point TP (ADJ) on MAIN board to ground with lead wire.
4. The ADJ mode is set when the power cord is inserted into the outlet and power is supplied.
5. The fifth track is played automatically.
6. Press the CHECK button.
7. Check the oscilloscope waveform (S-curve) is symmetrical between A and B. And confirm peak to peak level within 3±1 Vp-p.

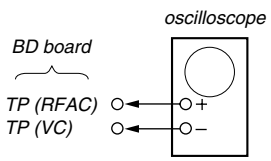


8. Pressing the I/⏻ button stops the output of the waveform (s curve).
9. After check, remove the lead wire connected in step 3.

Note : • Try to measure several times to make sure than the ratio of A : B or B : A is more than 10 : 7.
• Take sweep time as long as possible and light up the brightness to obtain best waveform.

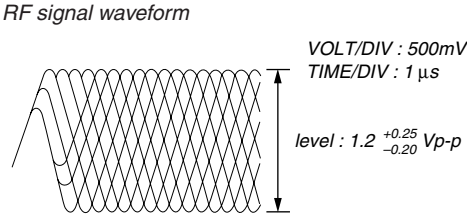
Adjustment Location: BD board (See page 30)

RF Level Check



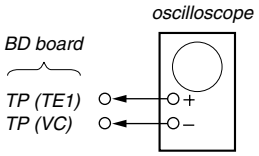
Procedure :
1. Connect oscilloscope to test point TP (RFAC) on BD board.
2. Turn Power switch on.
3. Put disc (YEDS-18) in to play the number five track.
4. Confirm that oscilloscope waveform is clear and check RF signal level is correct or not.

Note: A clear RF signal waveform means that the shape "◊" can be clearly distinguished at the center of the waveform.

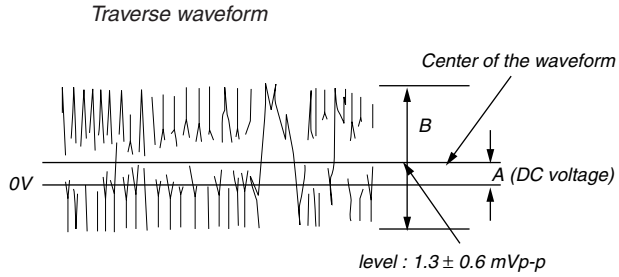


Adjustment Location: BD board (See page 30)

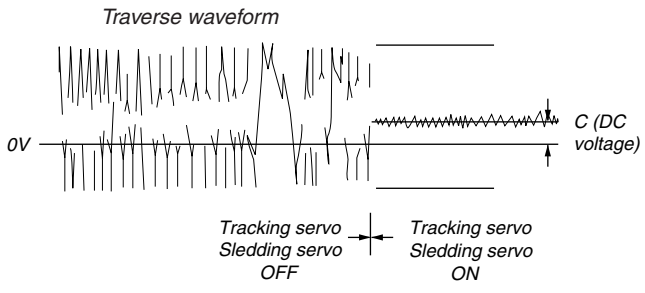
E-F Balance Check



Procedure :
1. Chuck the disc (YEDS-18) beforehand, and disconnect the power cord from the outlet.
2. Connect oscilloscpe to test point TP (TE1) on BD board.
3. Connect test point TP (ADJ) on MAIN board to ground with lead wire.
4. The ADJ mode is set when the power cord is inserted into the outlet and power is supplied.
5. The fifth track is played automatically.
6. Press the GROUP 3 button. (The tracking servo and the sledding servo are turned OFF.) " TRK Off " is displayed.
7. Check the level B of the oscilliscope's waveform and the A (DC voltage) of the center of the Traverse waveform.
   Confirm the following :
   A/B x 100 = less than ± 22%



8. Press the GROUP 8 button. (The tracking servo and sledding servo are turned ON.) " TRK On " is displayed. Confirm the C (DC voltage) is almost equal to the A (DC voltage) is step 7.



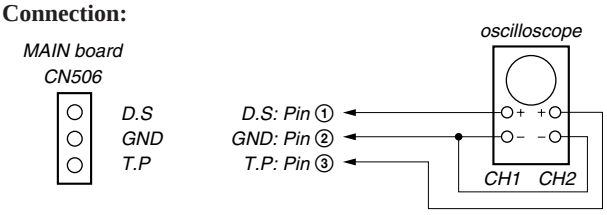
9. After check, disconnect the lead wire of TP (ADJ) connected in step 3.

Adjustment Location: MAIN board (See page 30)

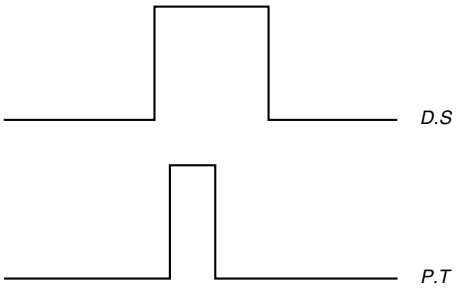
Disc Sensor Adjustment

Be sure to perform this adjustment after sensor adjustment in MECHANICAL ADJUSTMENT.

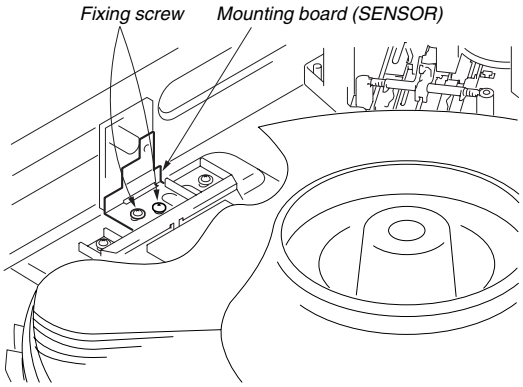
Connection:

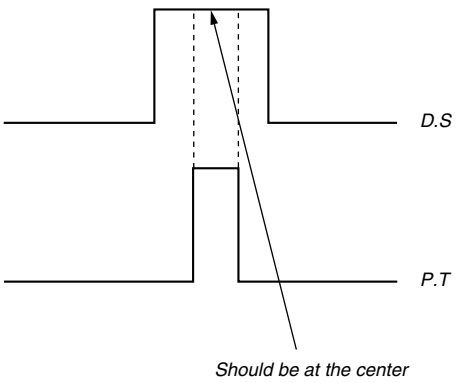


Waveform:

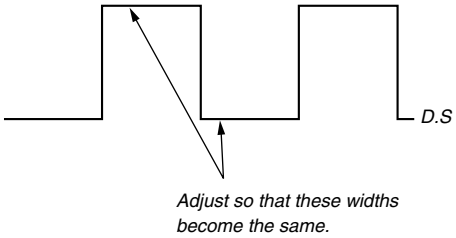


1. Connect the oscilloscope to Pins ①, ②, and ③ of CN506 of the MAIN board.
2. Check that no discs are loaded in the unit.
3. With the power ON, while pressing the GROUP 5 and ≙ OPEN/CLOSE buttons, press the +100 button. The disc table starts to rotate in the clockwise direction.
4. Loosen the fixing screw, move the mounting board (SENSOR), and secure the mounting board (SENSOR) at the point the H portion of the P.T waveform comes the center of the H portion of the D.S waveform.





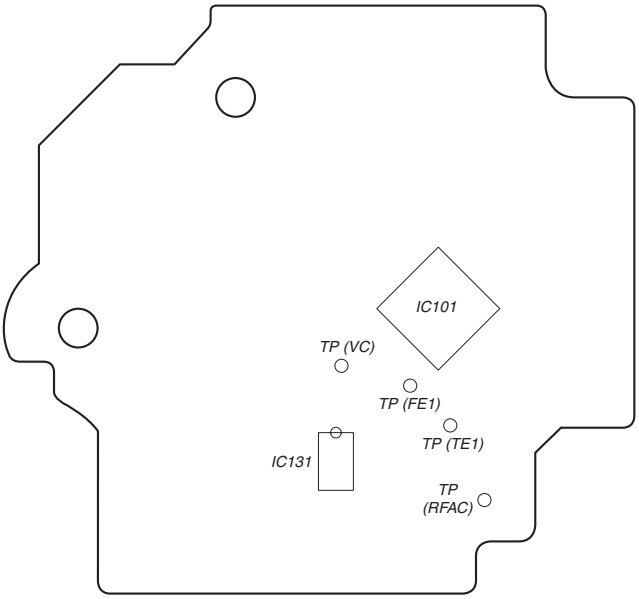
5. Rotate the DISC/CHARACTER knob in the counterclockwise direction and the disc table starts to rotate in the same direction. Check that the waveform at this time is the same as that in step 4. If larger by a considerable extent, rotate the DISC/CHARACTER knob in the clockwise direction and the disc table starts to rotate in the same direction. Repeat from step 4.
6. Rotate RV501 of the MAIN board and adjust so that the H and L portions of the D.S waveform become the same.



Adjustment Location: MAIN board (See page 30)

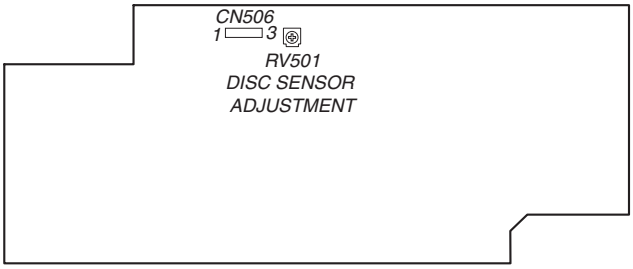
Adjustment Location :

[BD BOARD] – Conductor Side –

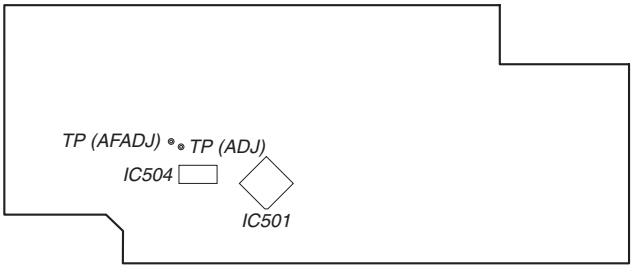


[MAIN BOARD]

– Component Side –



– Conductor Side –



SECTION 7
DIAGRAMS

THIS NOTE IS COMMON FOR PRINTED WIRING BOARDS AND SCHEMATIC DIAGRAMS.
(In addition to this necessary note is printed in each block.)

For schematic diagrams.
Note:

- All capacitors are in µF unless otherwise noted. p : pF. 50 WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and 1/4 W or less unless otherwise specified.
- △ : internal component.
- ▭ : panel designation.

Note:	**Note:**
The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.	Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

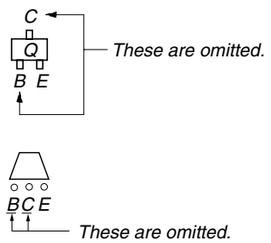
- ▬▬ : B+ Line.
- ▬ ▬ ▬ : B– Line.
- ▭ : adjustment for repair.
- Voltages and waveforms are dc with respect to ground under no-signal (detuned) conditions.
  No mark : STOP
- Voltages are taken with a VOM (Input impedance 10 MΩ). Voltage variations may be noted due to normal production tolerances.
- Waveforms are taken with a oscilloscope. Voltage variations may be noted due to normal production tolerances.
- Circled numbers refer to waveforms.
- Signal path.
  ⇨ : CD
  ⇨ : digital

For printed wiring boards.
Note:

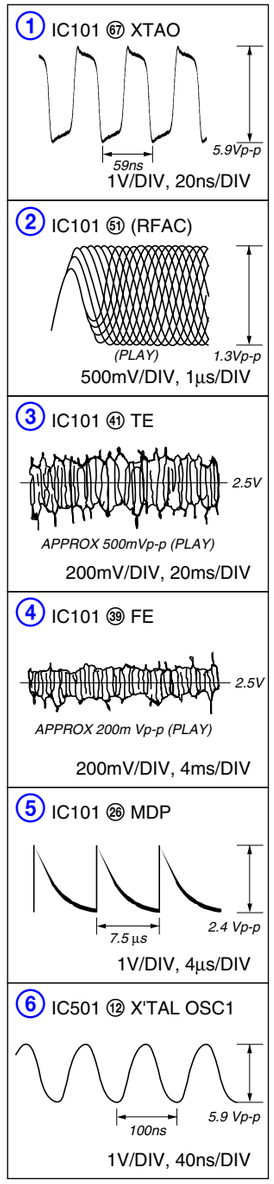
- ○——— : parts extracted from the component side.
- ——— : parts extracted from the conductor side.
- ○ : Through hole.
- ▬ : Pattern from the side which enables seeing.

(The other layers' patterns are not indicated.)

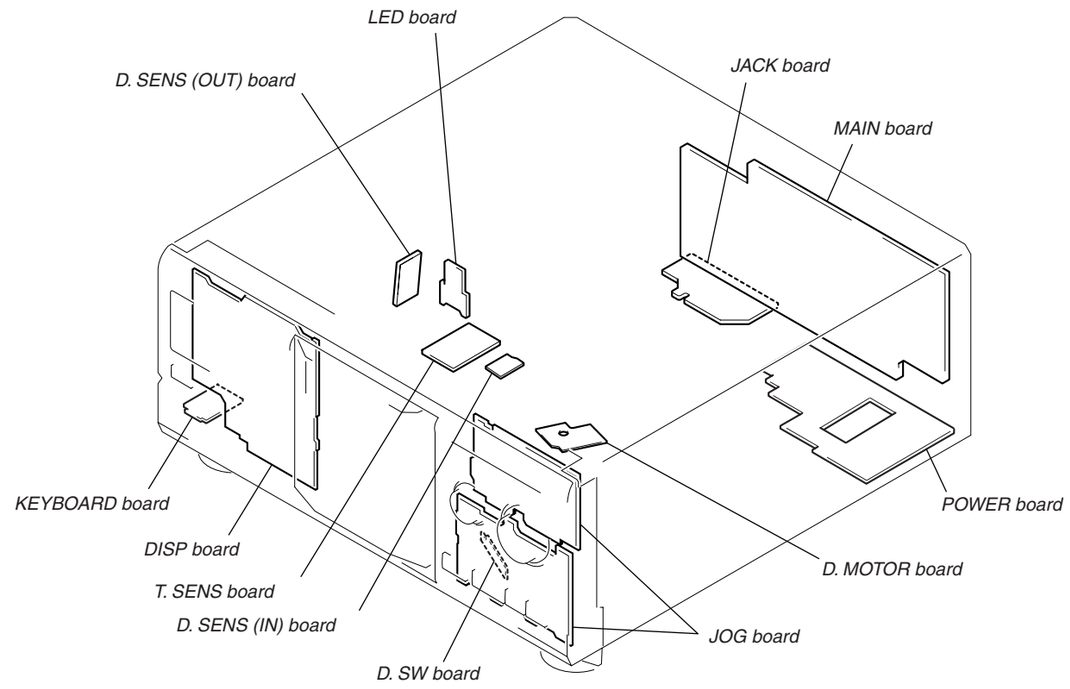
• Indication of transistor

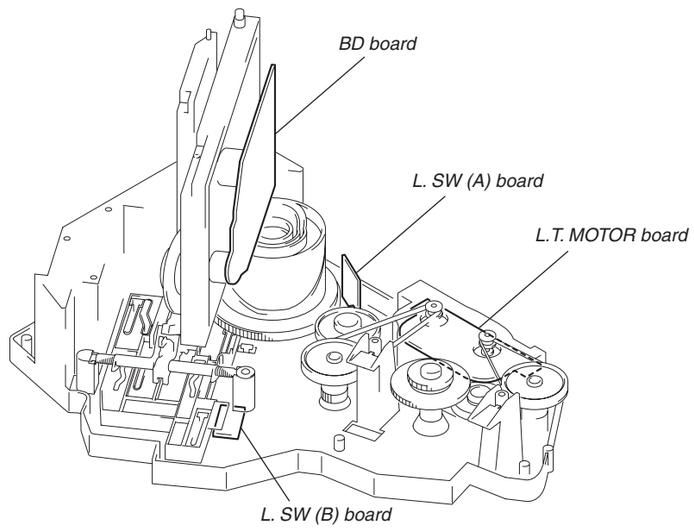


• Waveform

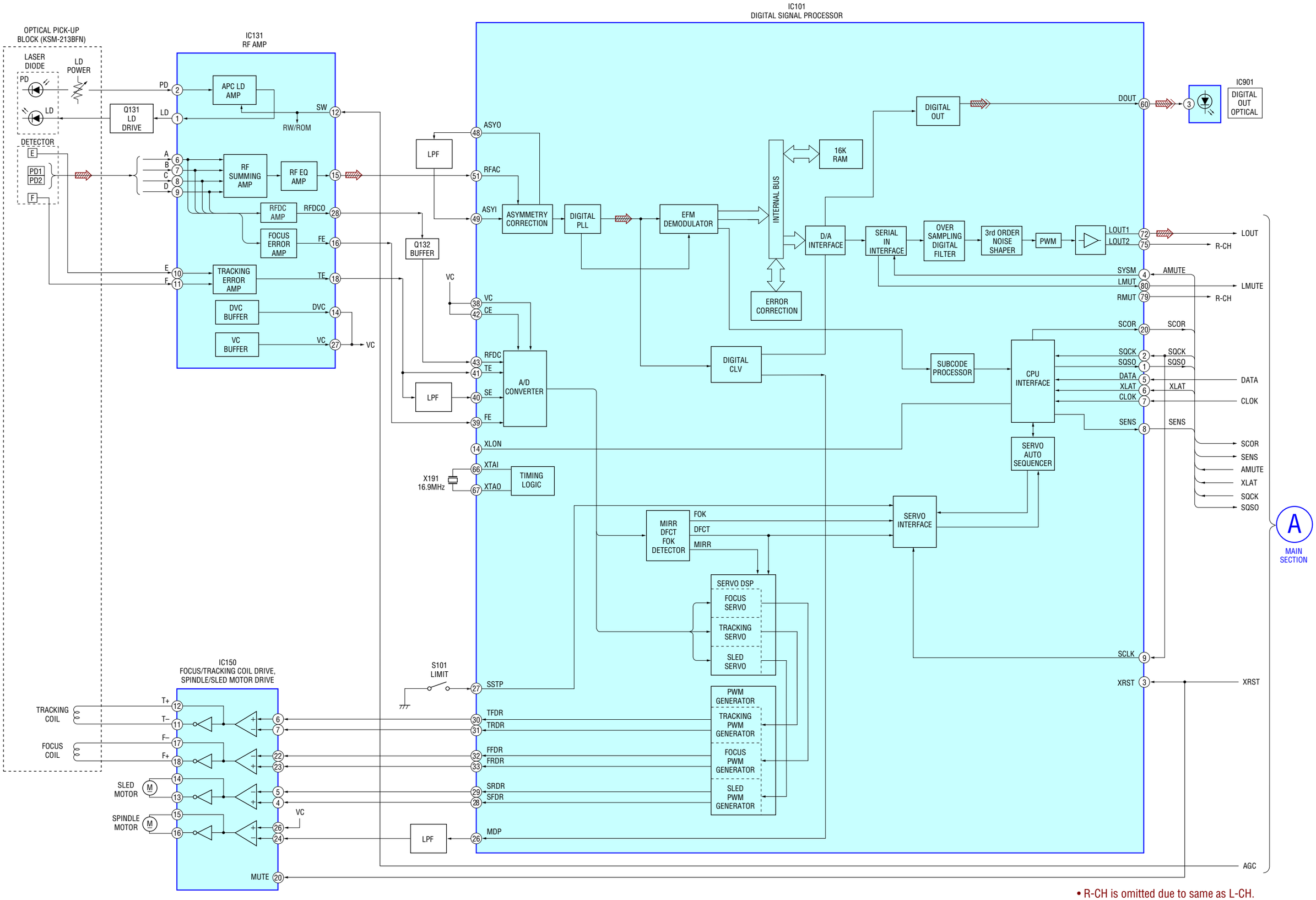


• Circuit Board Location



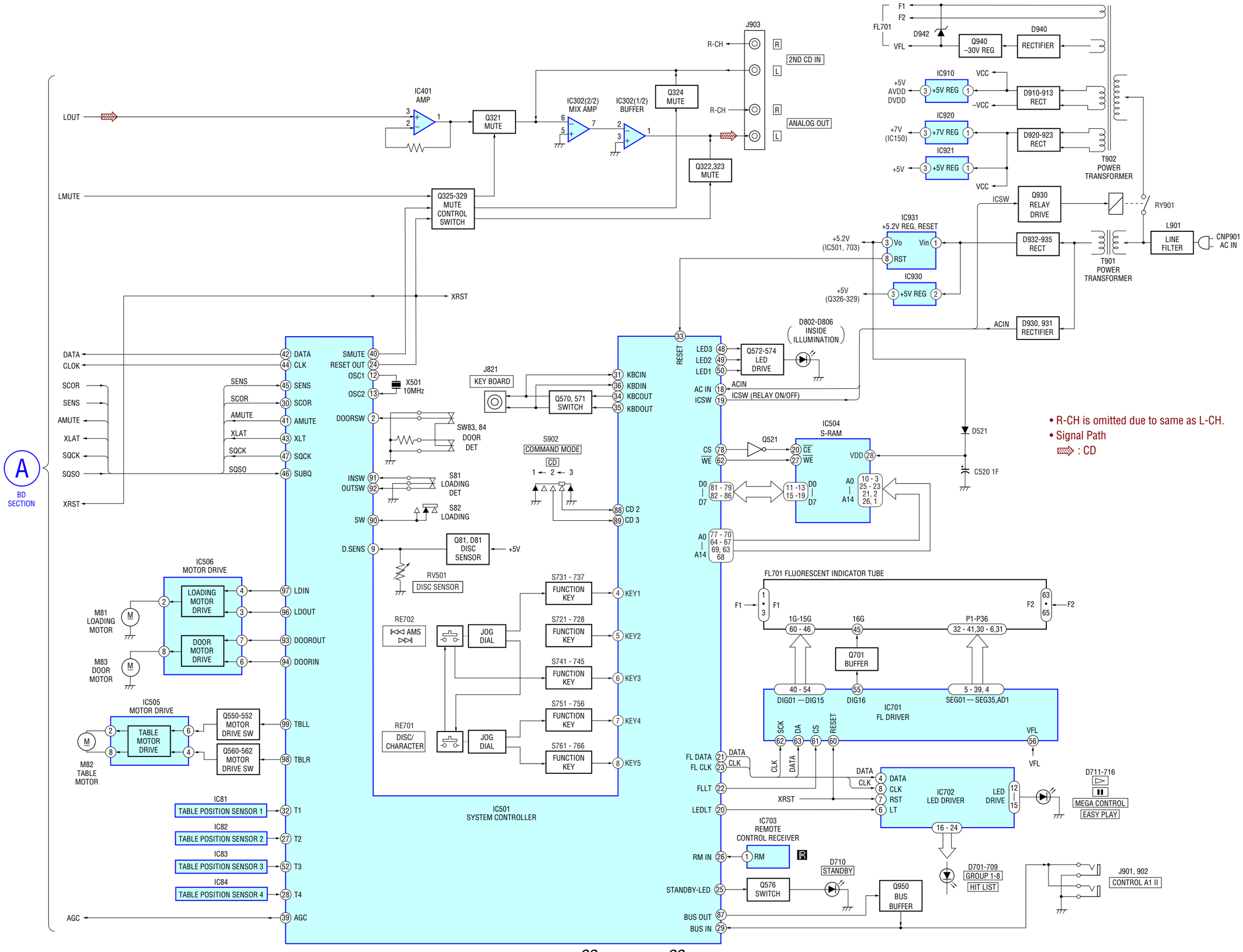


7-1. Block Diagrams – BD Section –



- R-CH is omitted due to same as L-CH.
- Signal Path
  ⇒ : CD
  ⇒: CD DIGITAL

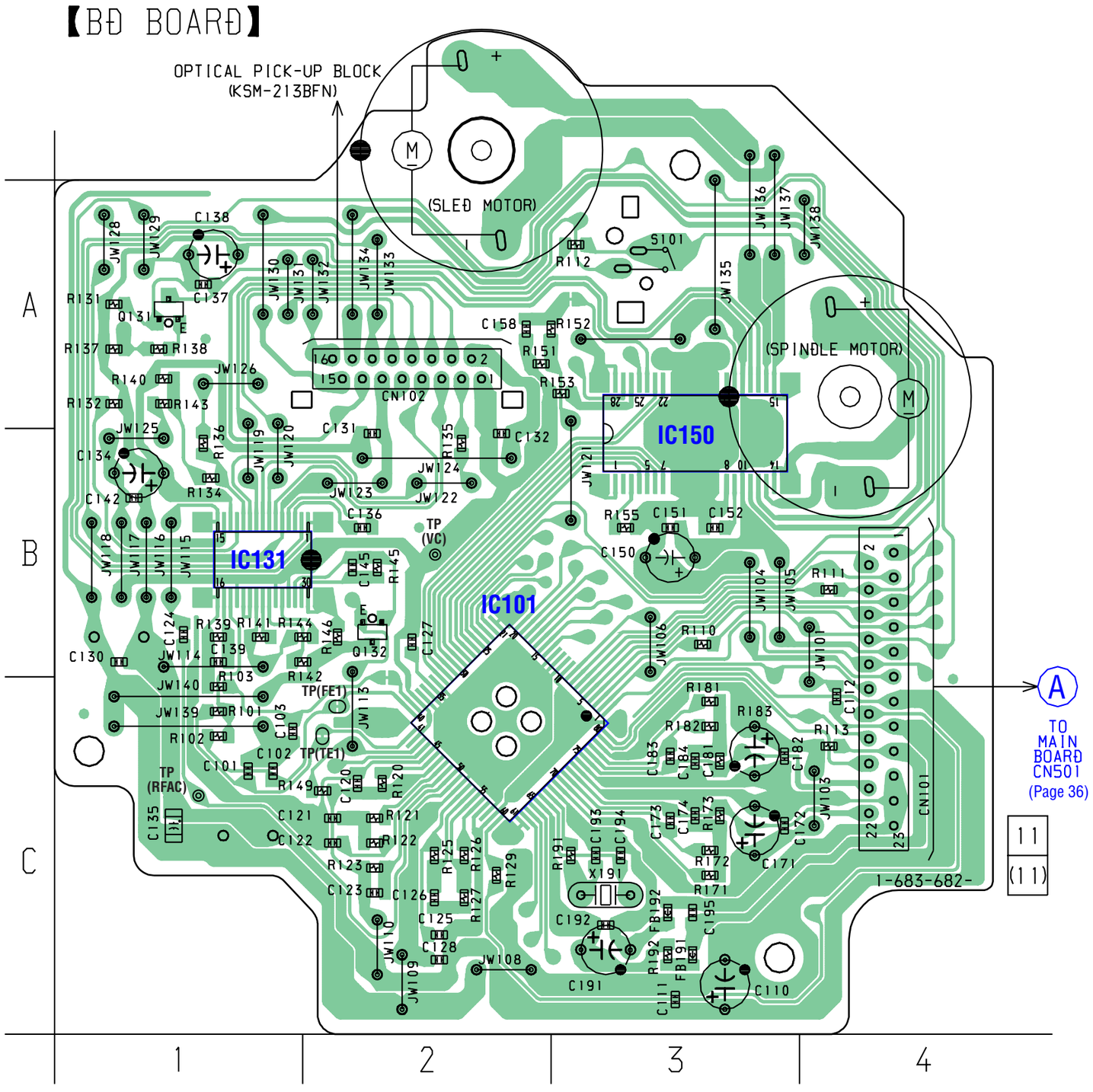
– MAIN Section –



- R-CH is omitted due to same as L-CH.
- Signal Path
  ⇒ : CD

7-2. Printed Wiring Board – BD Section –

• See page 31 for Circuit Boards Location.

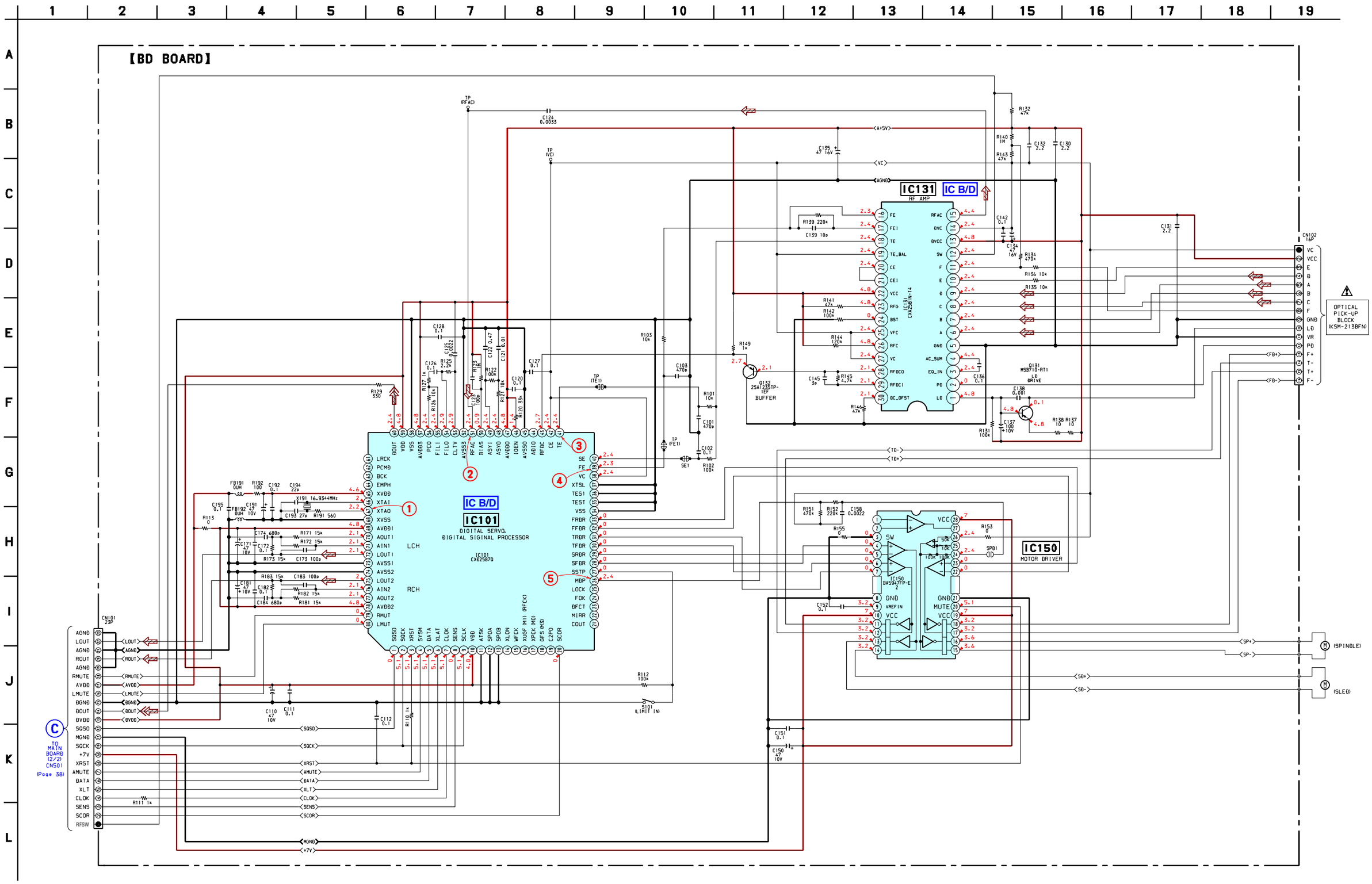


• **Semiconductor Location**

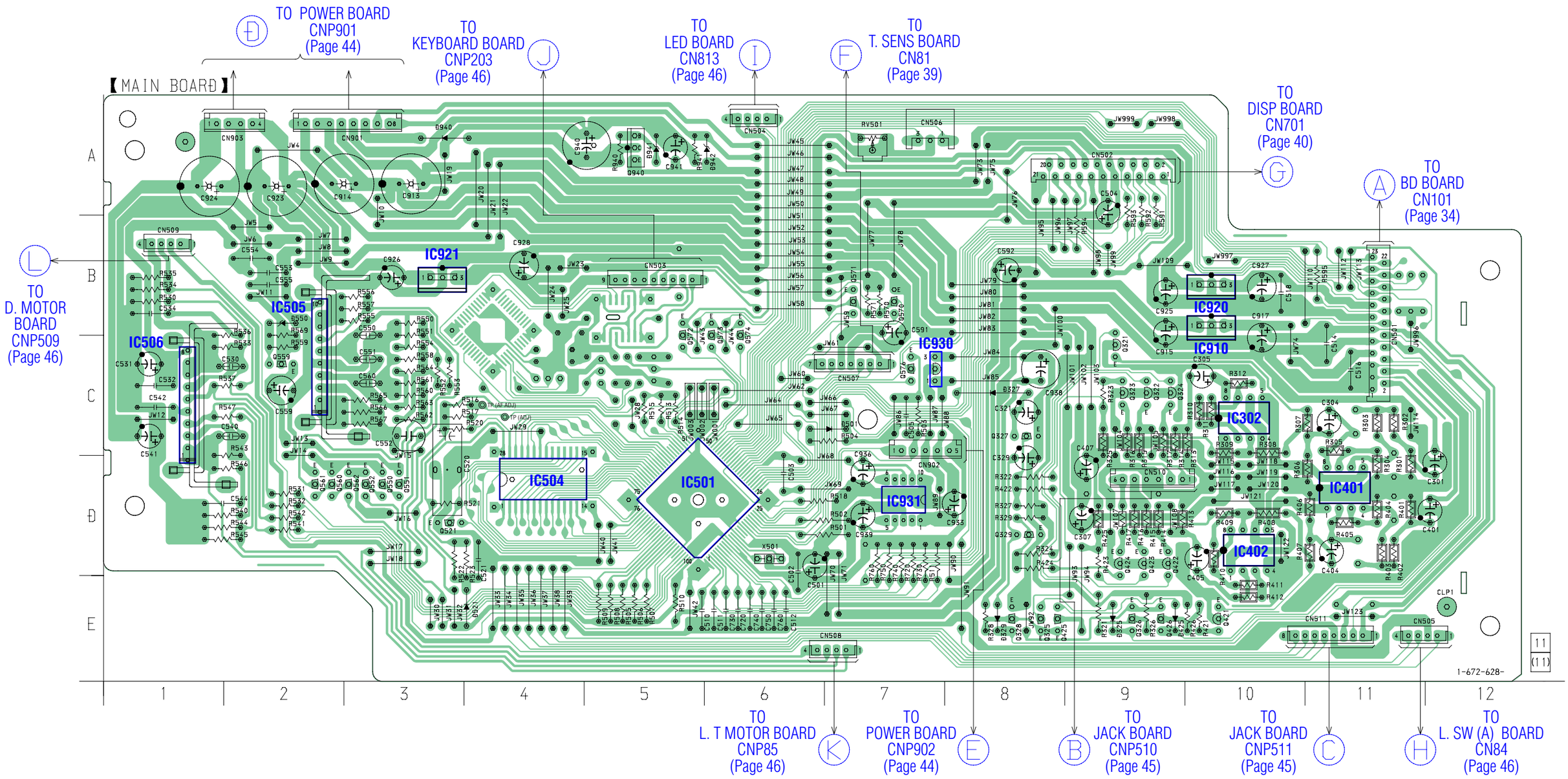
Ref. No.	Location
IC101	B-2
IC131	B-1
IC150	B-3
Q131	A-1
Q132	B-2

7-3. Schematic Diagram – BD Section –

• See page 31 for Waveforms.
• See page 47, 48 for IC Block Diagrams.
• See page 50 for IC Pin Function.



7-4. Printed Wiring Board – MAIN Section – • See page 31 for Circuit Boards Location.

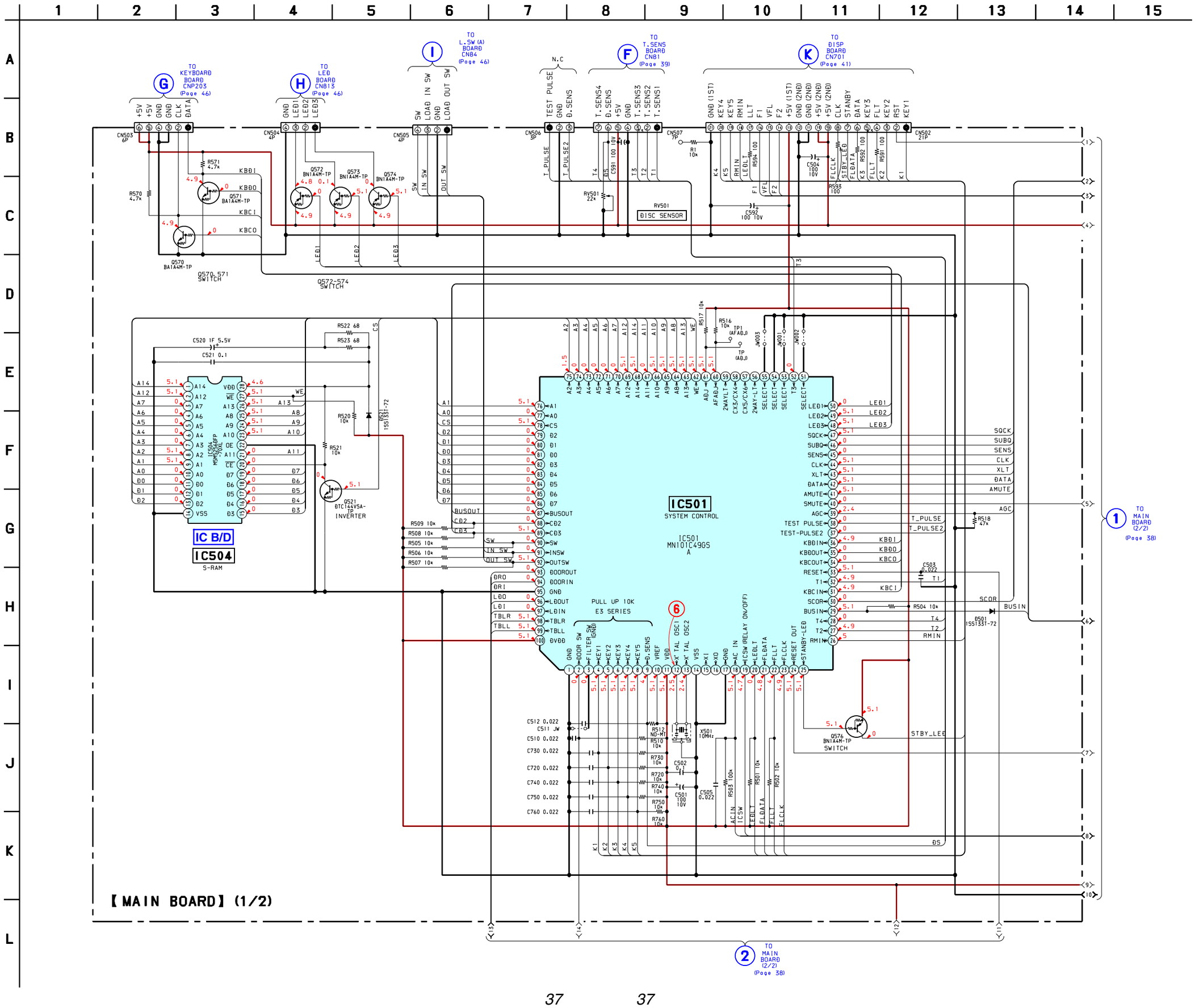


• **Semiconductor Location**

Ref. No.	Location	Ref. No.	Location	Ref. No.	Location	Ref. No.	Location
D325	E-9	IC302	C-10	Q321	C-10	Q521	D-3
D327	C-8	IC401	D-11	Q322	C-9	Q550	D-3
D329	E-8	IC402	D-10	Q323	C-9	Q551	D-3
D425	E-9	IC501	D-5	Q324	C-9	Q552	D-3
D501	C-7	IC504	D-4	Q325	E-8	Q559	C-2
D521	E-4	IC505	C-2	Q326	E-9	Q560	D-2
D550	B-2	IC506	C-1	Q327	C-8	Q561	D-2
D940	A-3	IC910	B-10	Q328	E-8	Q562	D-3
D941	A-5	IC920	B-10	Q329	D-8	Q570	B-7
D942	A-6	IC921	B-3	Q421	E-10	Q571	B-7
		IC930	C-7	Q422	D-9	Q572	B-5
		IC931	D-7	Q423	D-9	Q573	C-6
				Q424	D-9	Q574	C-6
				Q425	E-8	Q576	C-7
				Q426	E-9	Q940	A-5

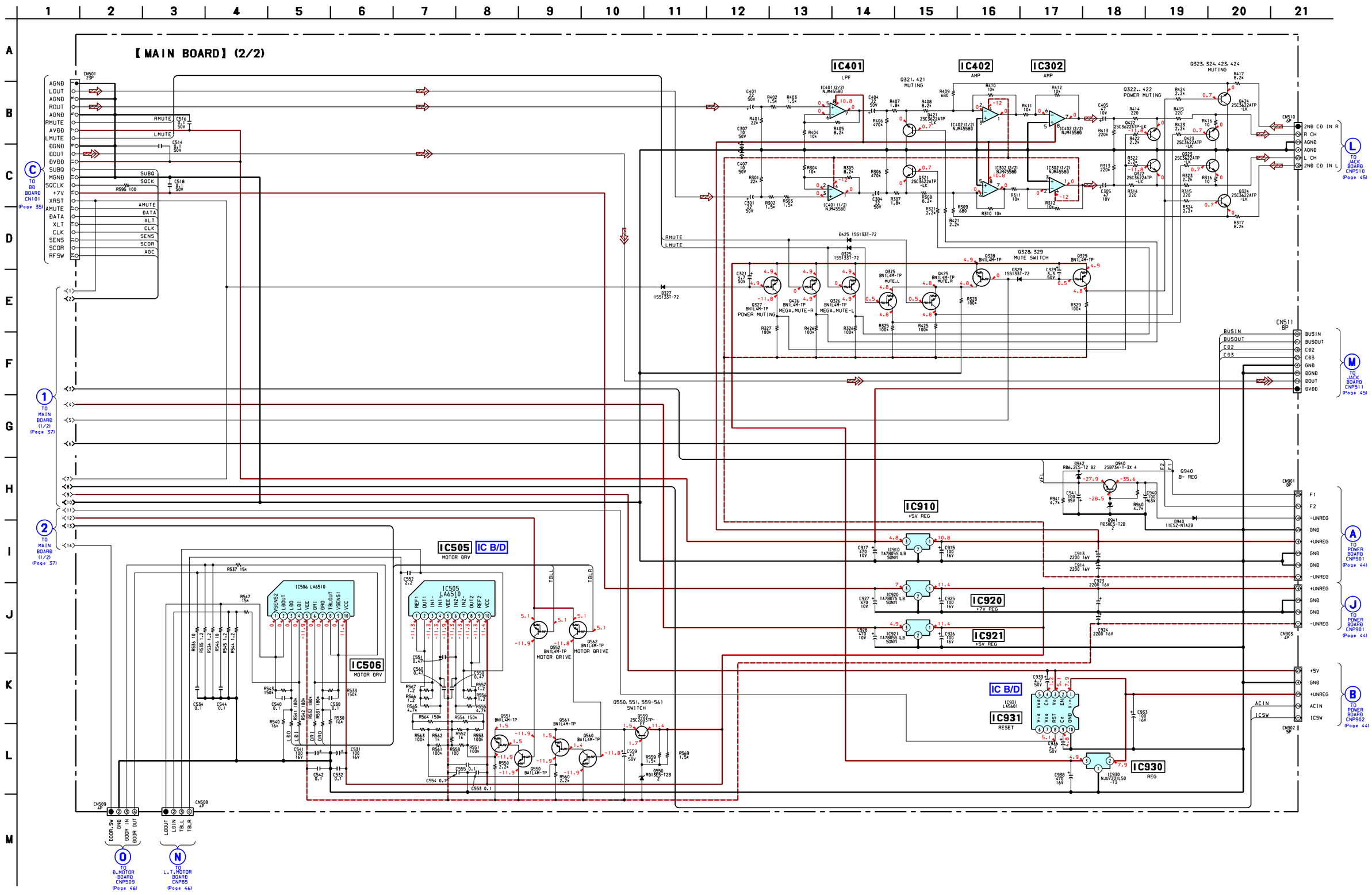
7-5. Schematic Diagram – MAIN Section (1/2) –

• See page 31 for Waveform. • See page 48 for IC Block Diagrams. • See page 52 for IC Pin Function.



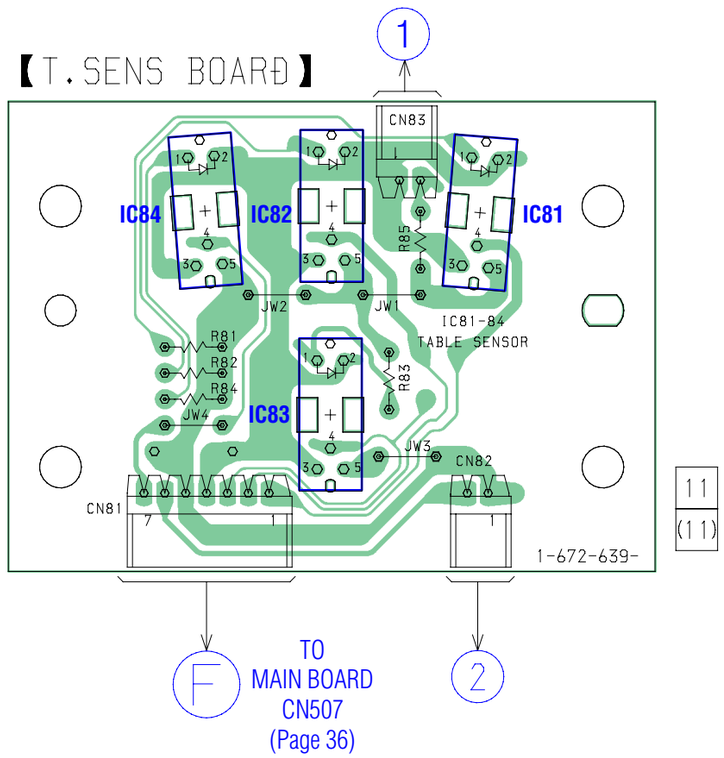
7-6. Schematic Diagram – MAIN Section (2/2) –

• See page 49 for IC Block Diagrams.



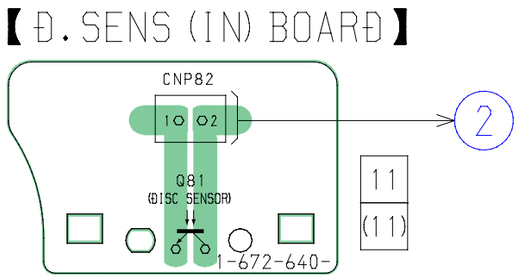
7-7. Printed Wiring Board – T.SENS Section –

• See page 31 for Circuit Boards Location.



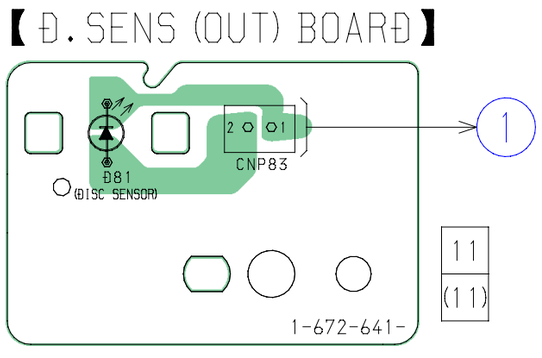
7-8. Printed Wiring Board – D.SENS (IN) Section –

• See page 31 for Circuit Boards Location.

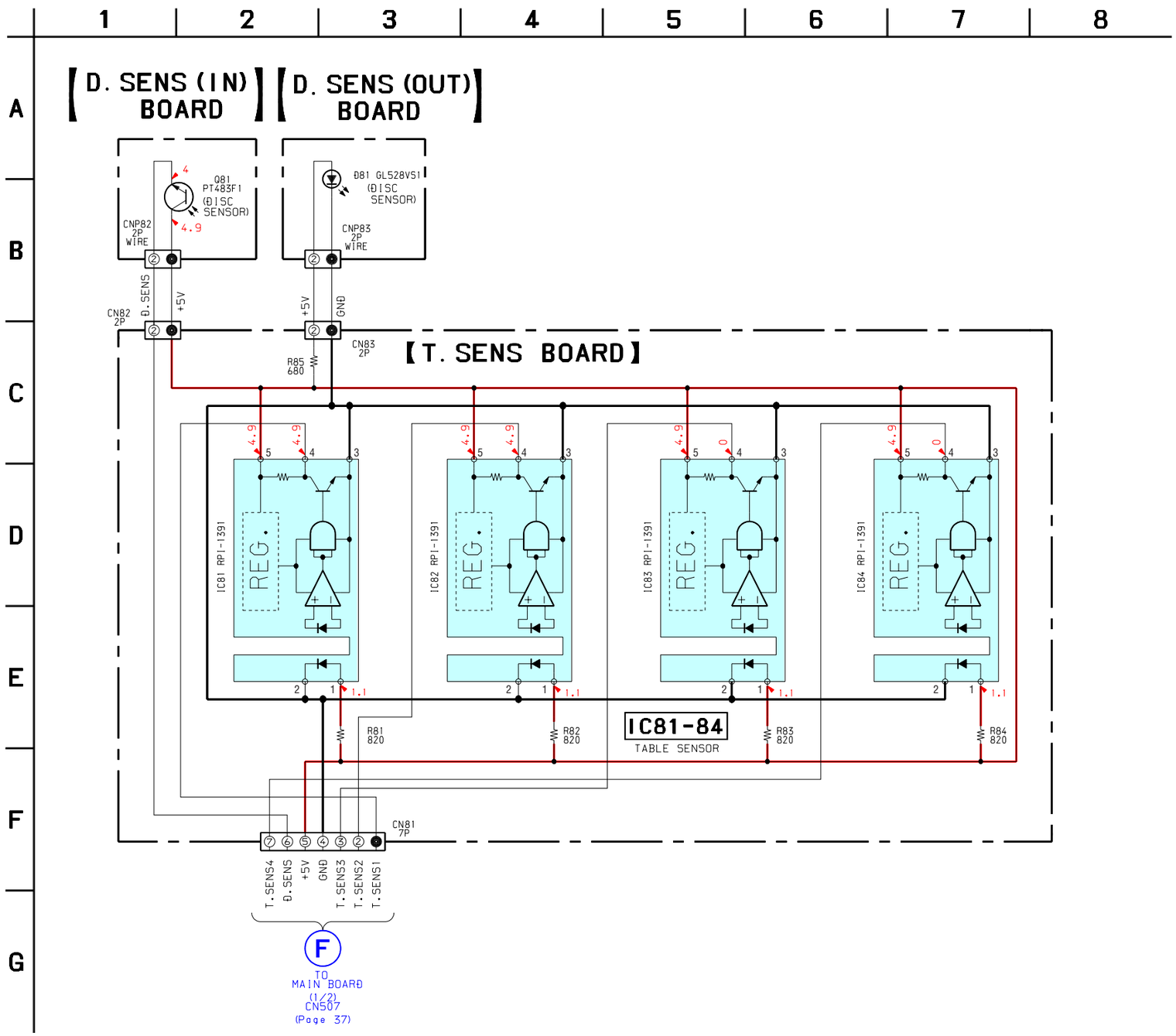


7-9. Printed Wiring Board – D.SENS (OUT) Section –

• See page 31 for Circuit Boards Location.

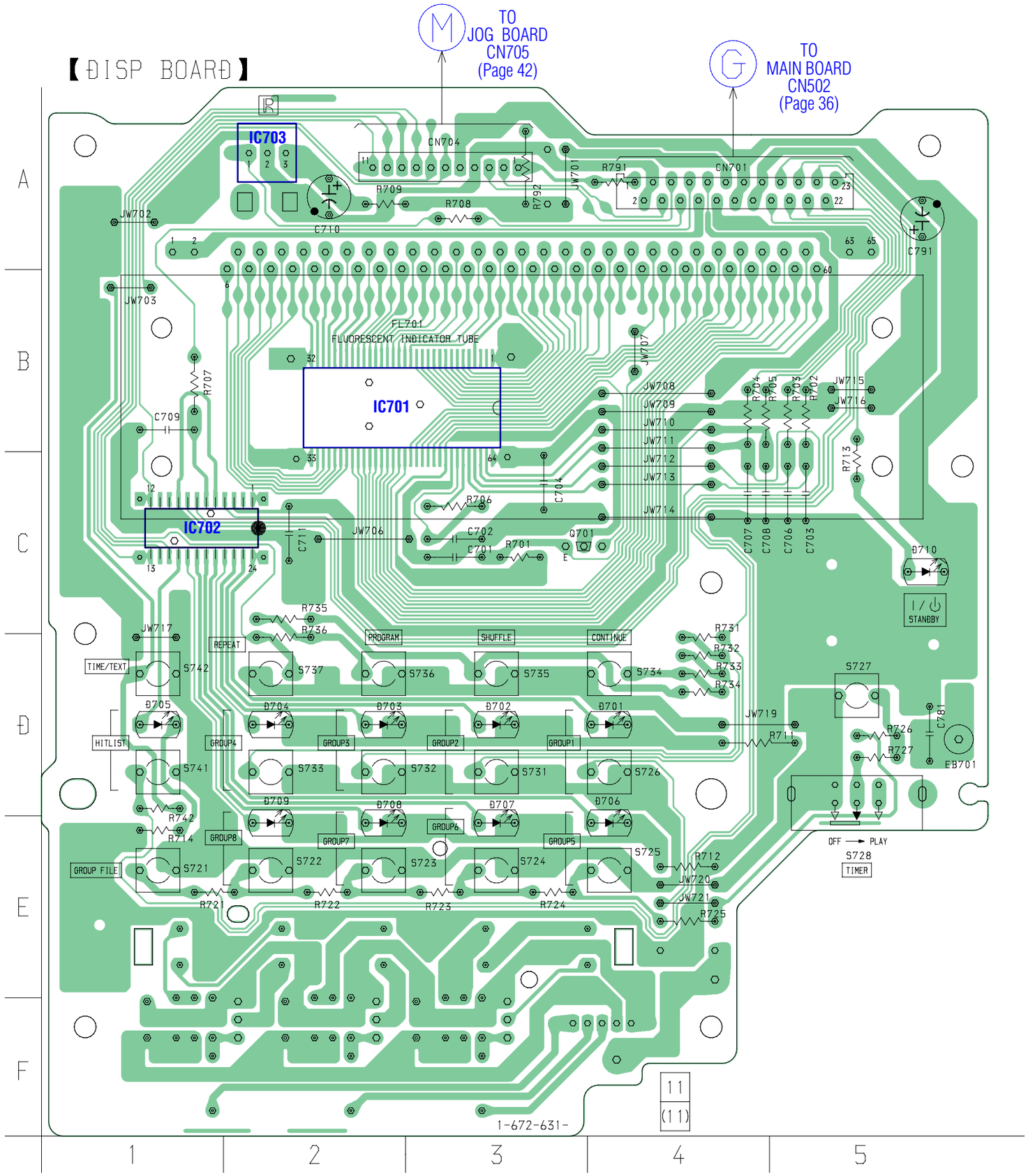


7-10. Schematic Diagram – SENSOR Section –



7-11. Printed Wiring Board – DISPLAY Section –

• See page 31 for Circuit Boards Location.

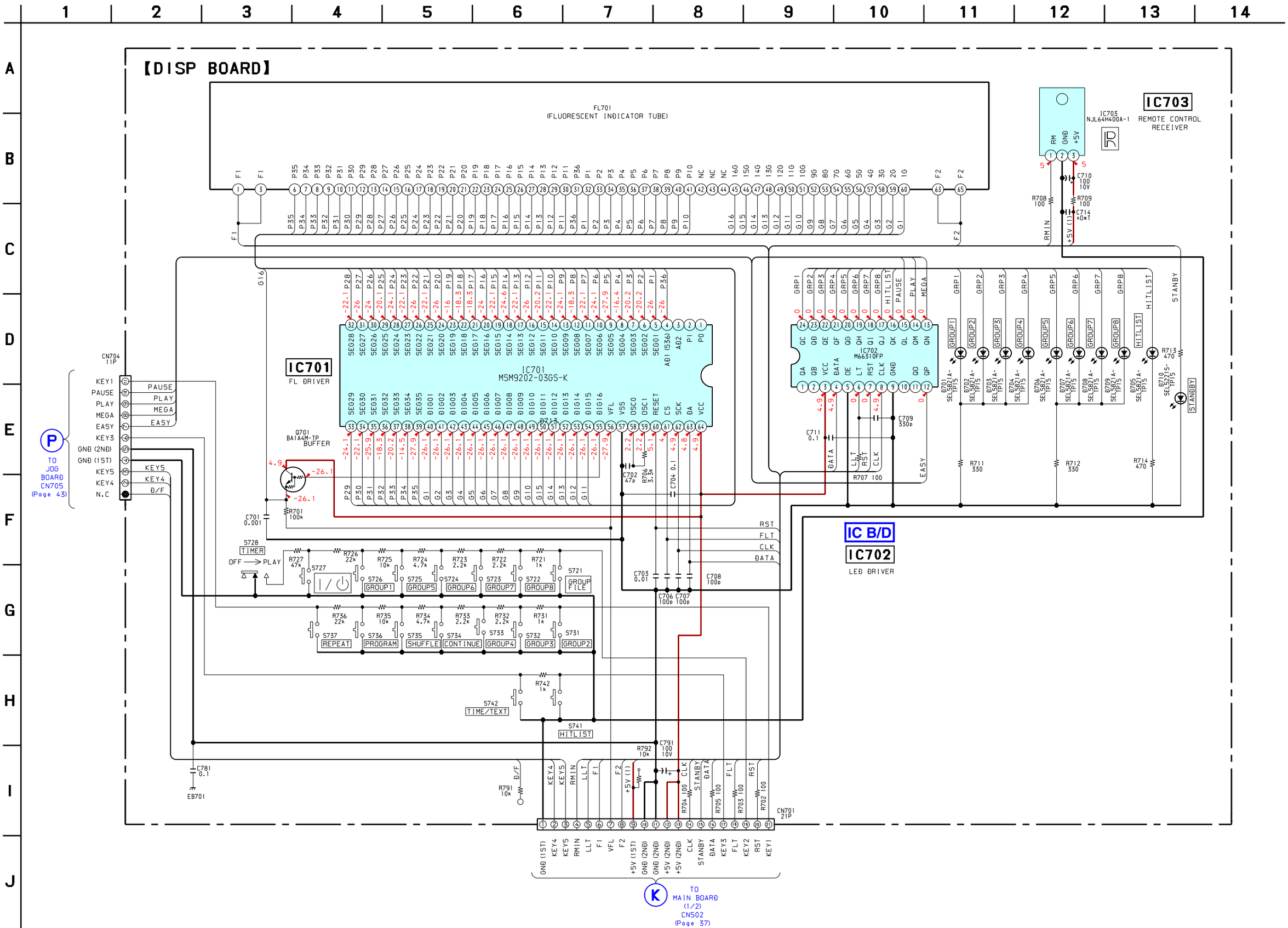


- **Semiconductor Location**

Ref. No.	Location
D701	D-4
D702	D-3
D703	D-2
D704	D-2
D705	D-1
D706	E-4
D707	E-3
D708	E-2
D709	E-2
D710	C-5
IC701	B-2
IC702	C-1
IC703	A-2
Q701	C-3

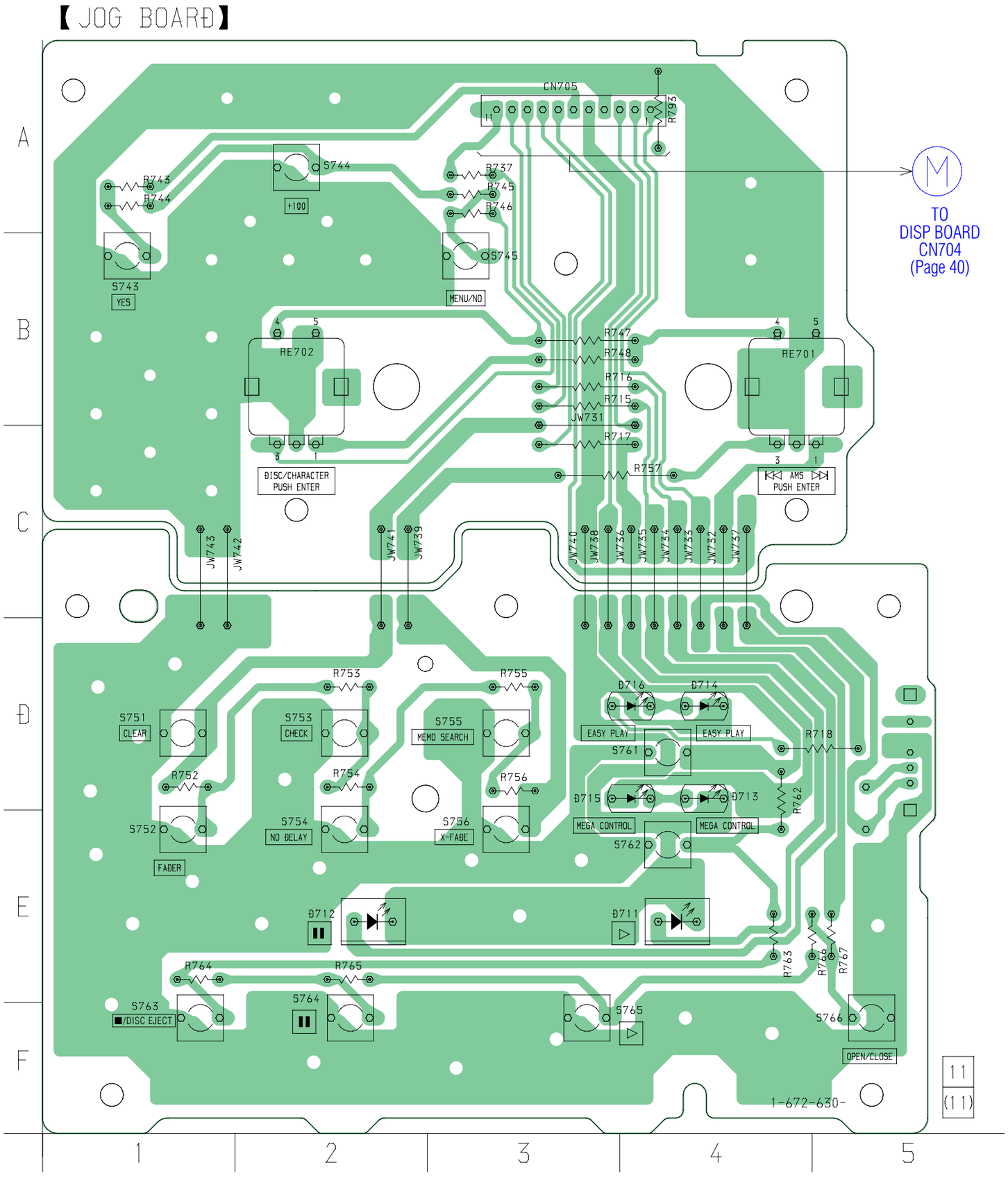
7-12. Schematic Diagram – DISPLAY Section –

• See page 49 for IC Block Diagrams.



7-13. Printed Wiring Board – JOG Section –

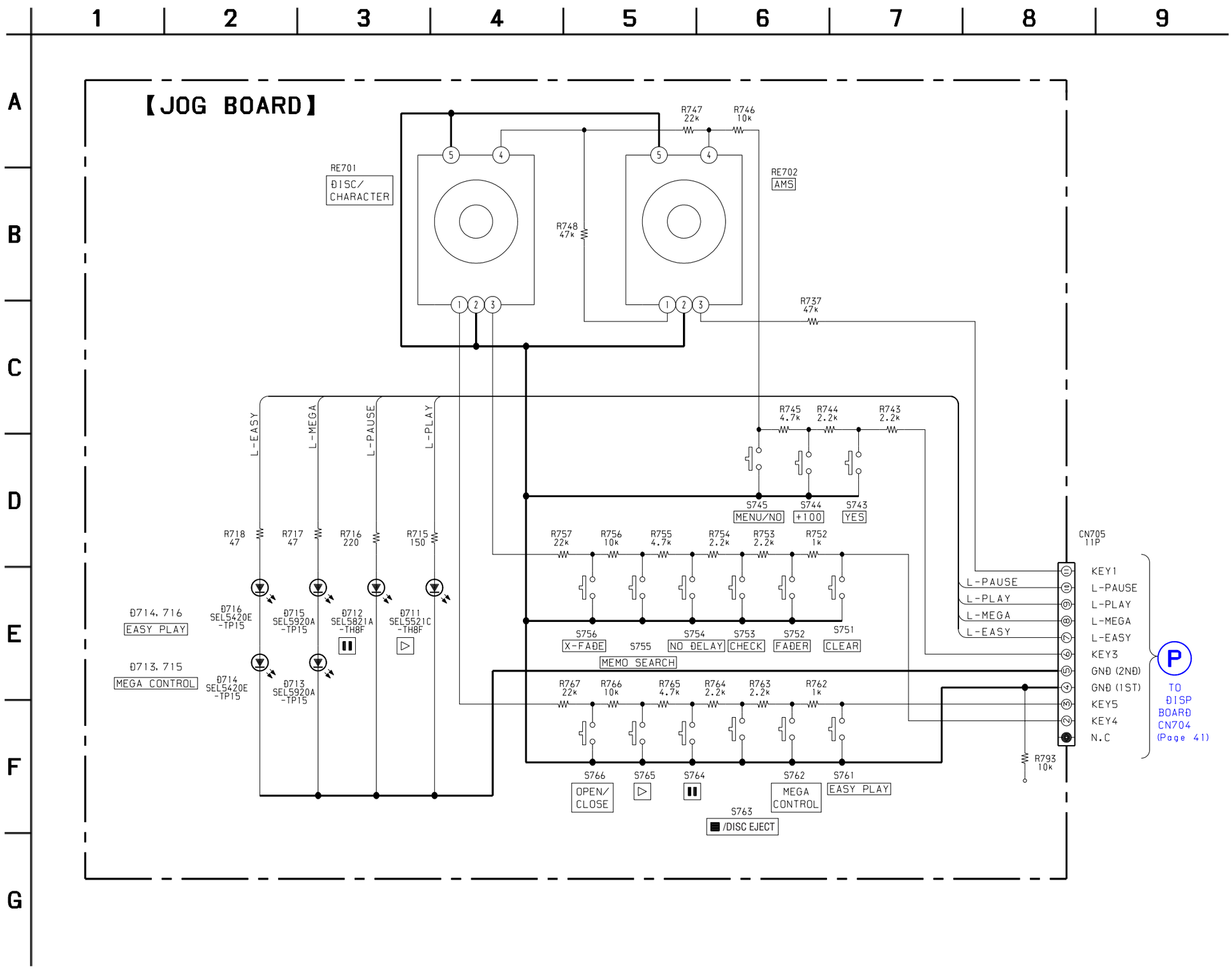
• See page 31 for Circuit Boards Location.



• **Semiconductor Location**

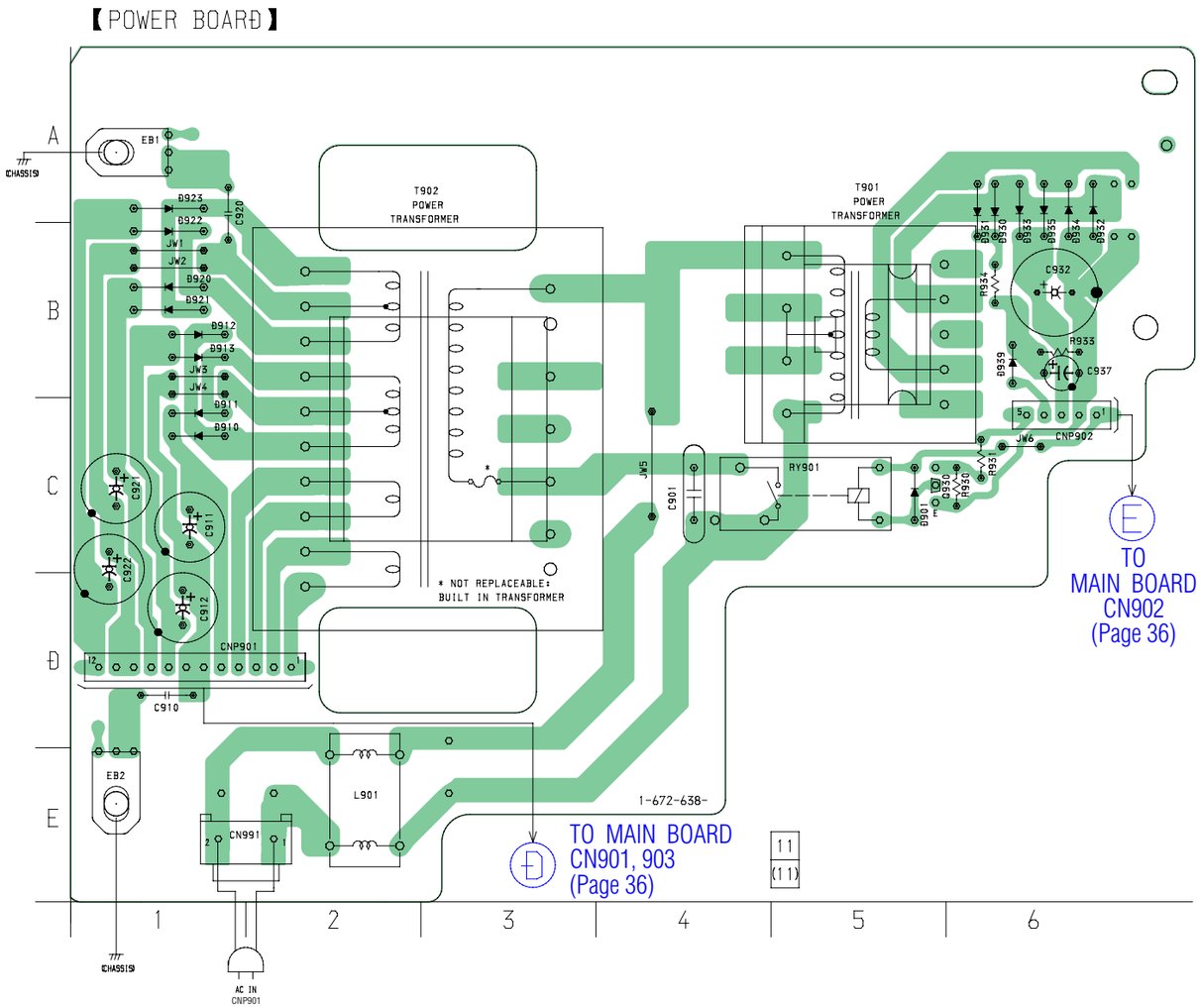
Ref. No.	Location
D771	D-4
D712	E-2
D713	D-4
D714	D-4
D715	D-4
D716	D-4

7-14. Schematic Diagram – JOG Section –



7-15. Printed Wiring Board – POWER Section –

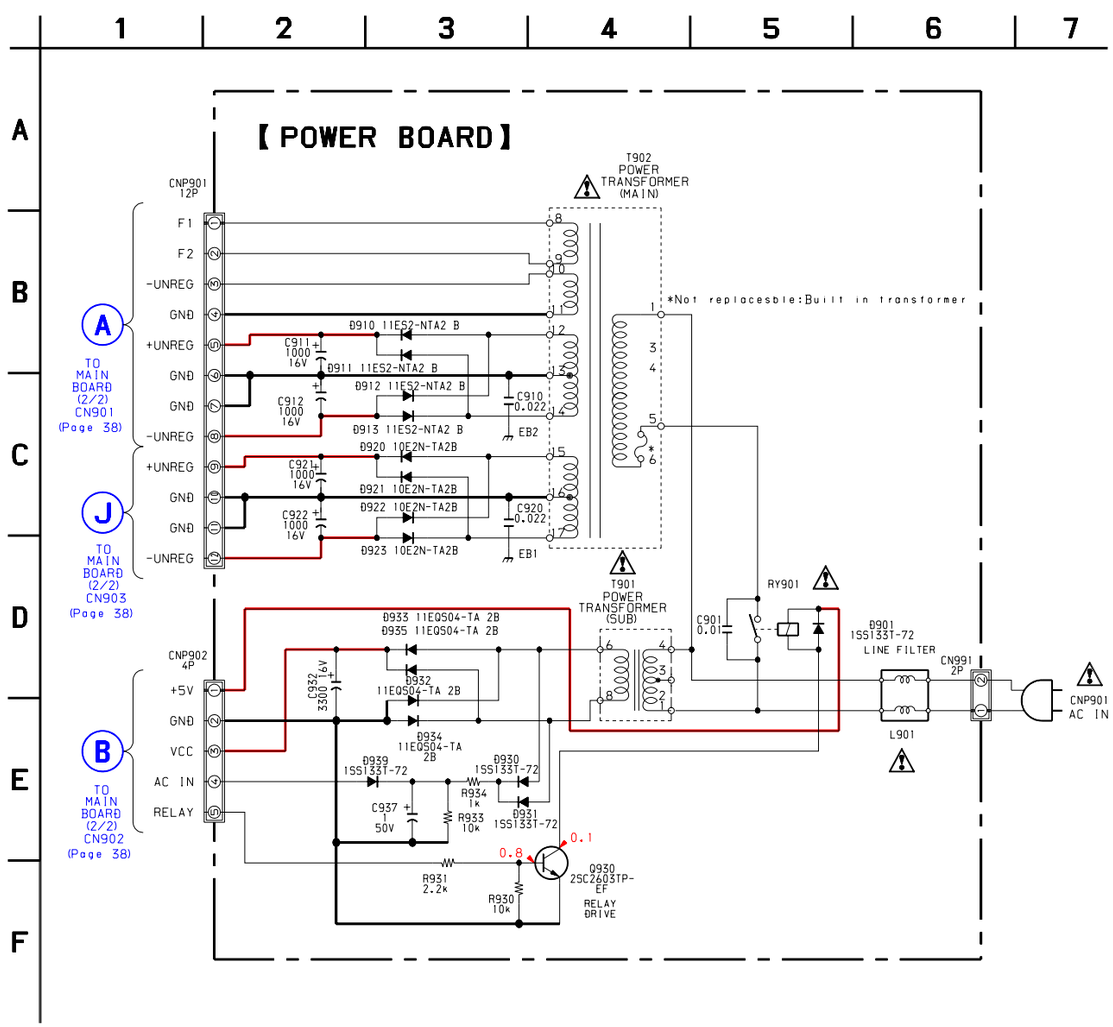
• See page 31 for Circuit Boards Location.



• **Semiconductor Location**

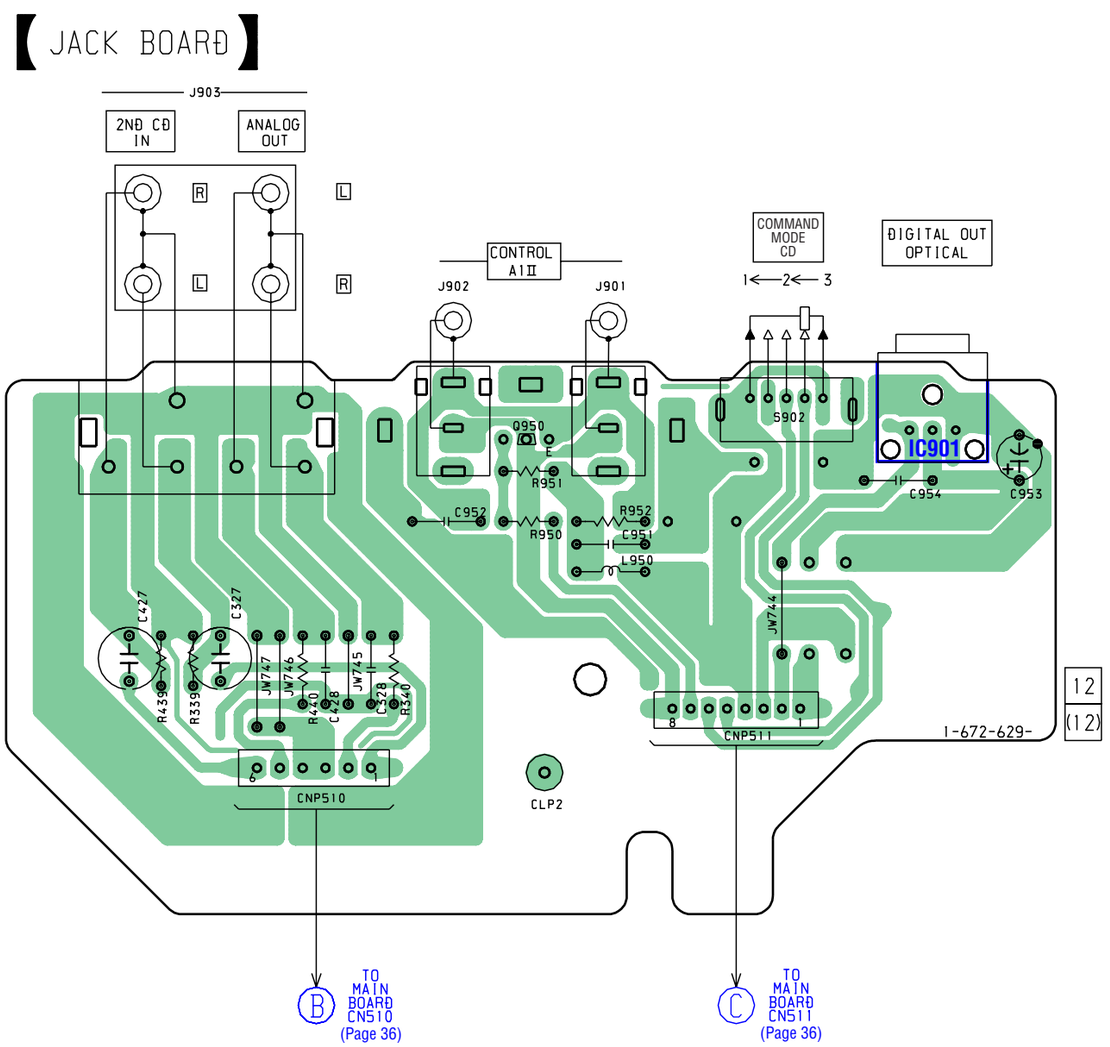
Ref. No.	Location
Q930	C-5
D901	C-5
D910	C-1
D911	C-1
D912	B-1
D913	B-1
D920	B-1
D921	B-1
D922	B-1
D923	A-1
D930	B-6
D931	B-6
D932	B-6
D933	B-6
D934	B-6
D935	B-6
D939	B-6

7-16. Schematic Diagram – POWER Section –

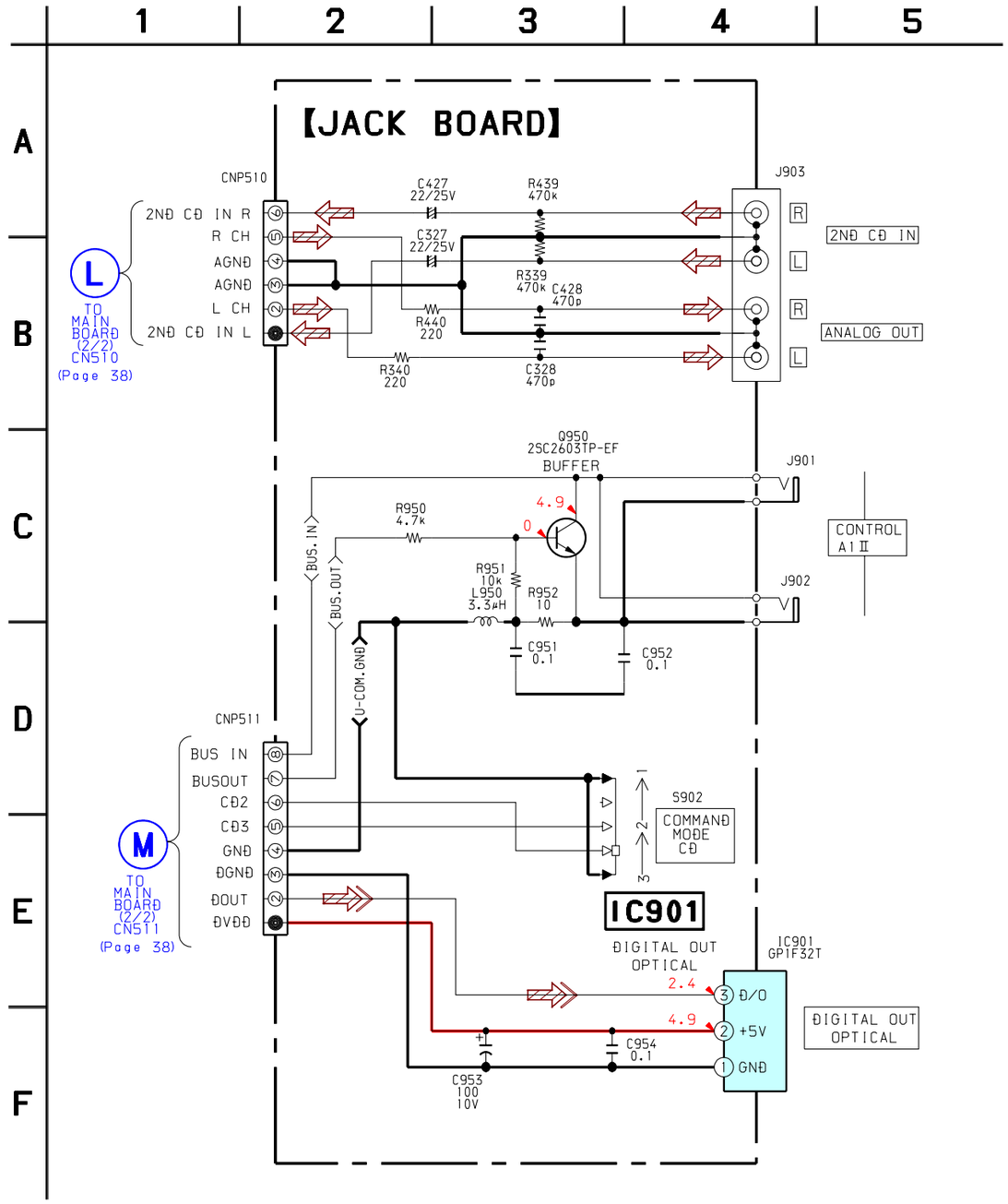


7-17. Printed Wiring Board – JACK Section –

• See page 31 for Circuit Boards Location.

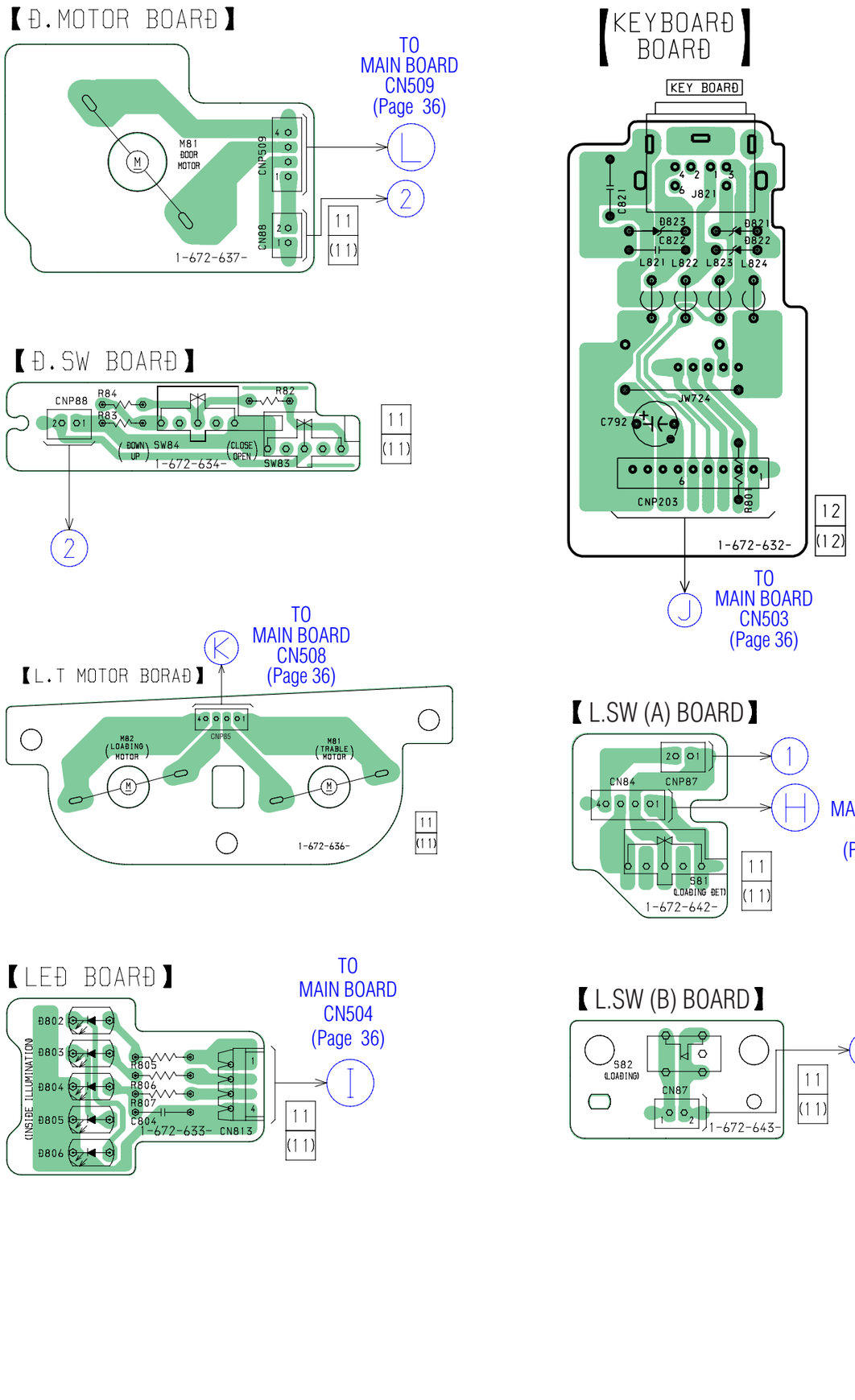


7-18. Schematic Diagram – JACK Section –

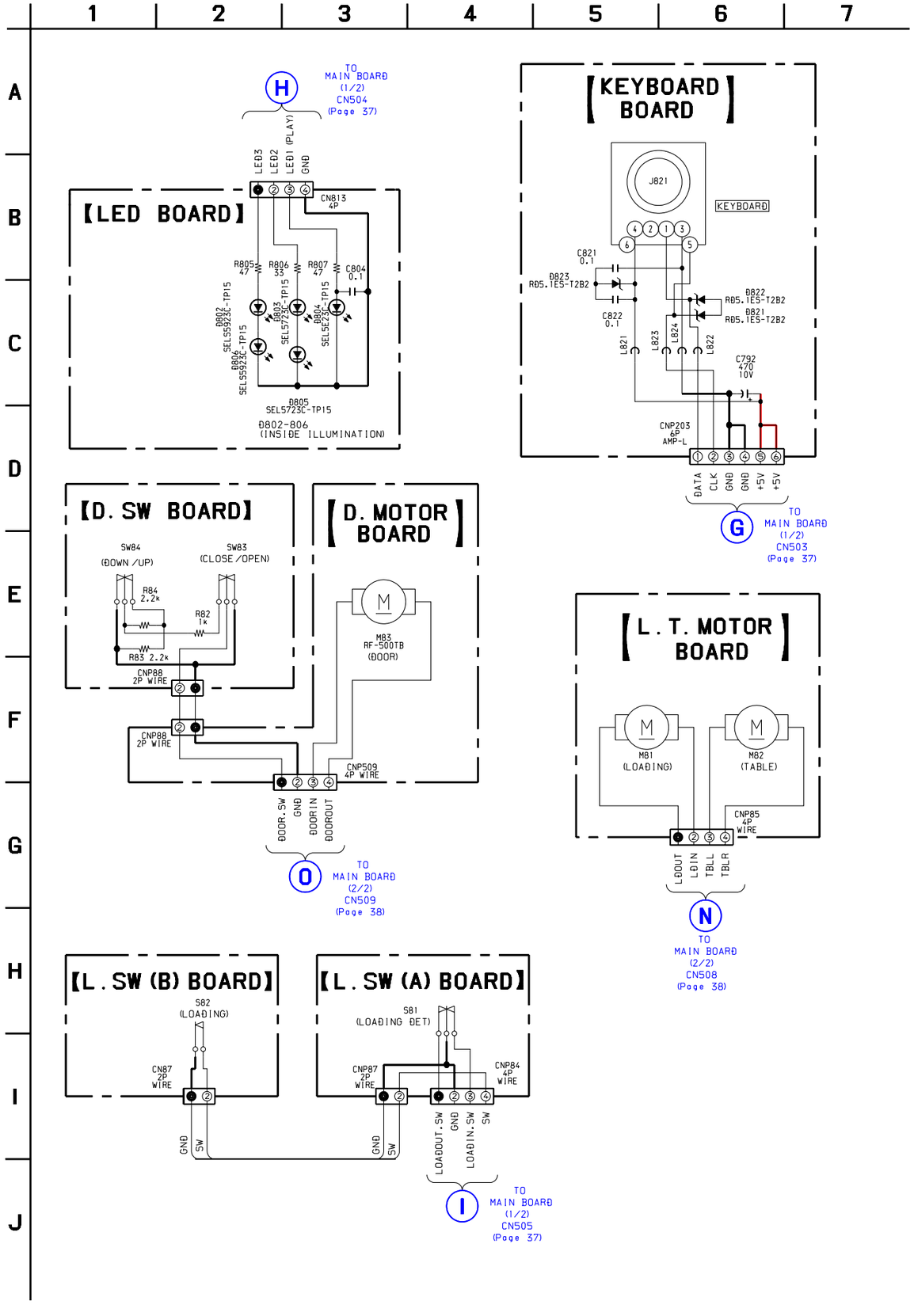


7-19. Printed Wiring Board – SWITCH/MOTOR Section –

• See page 31 for Circuit Boards Location.



7-20. Schematic Diagram – SWITCH/MOTOR Section –



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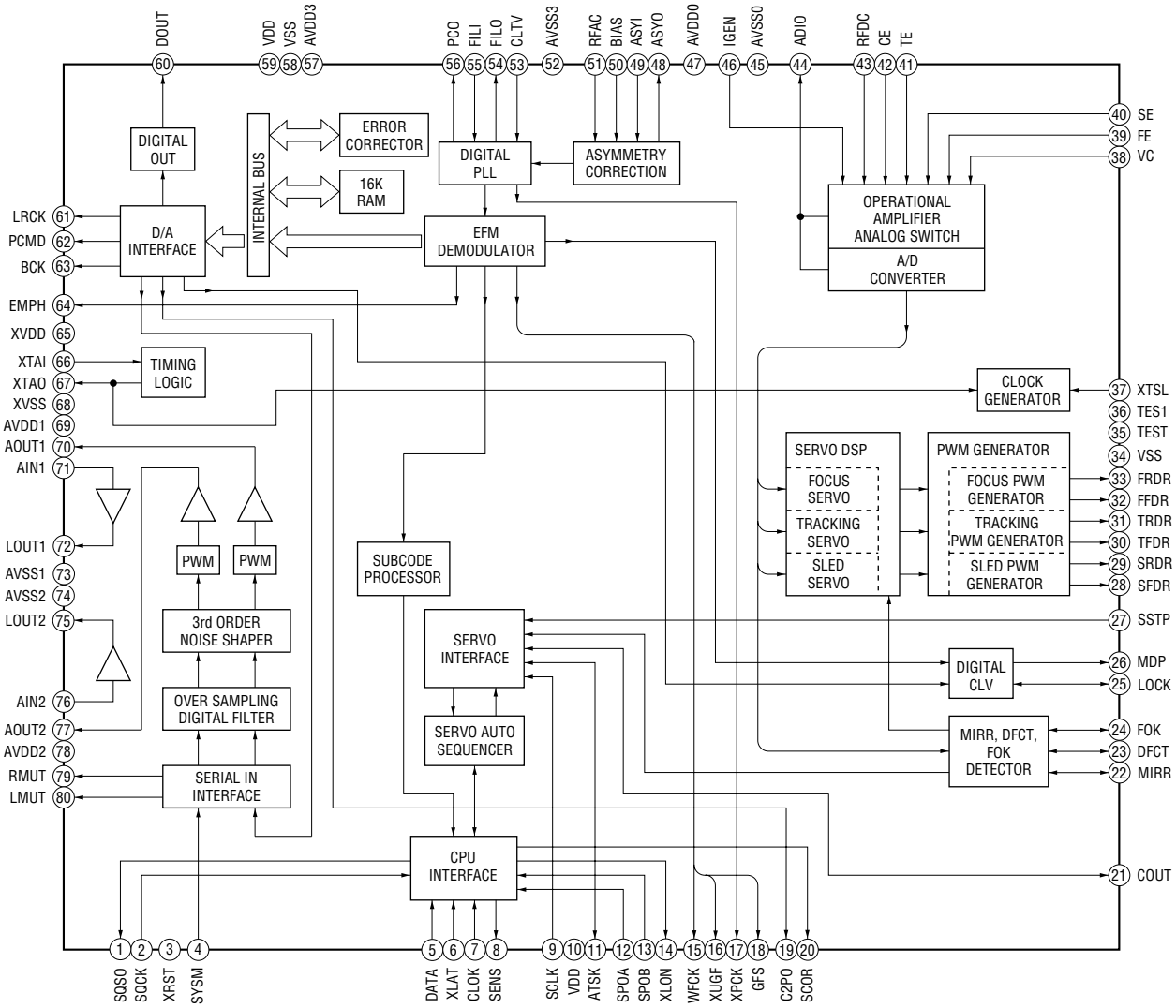
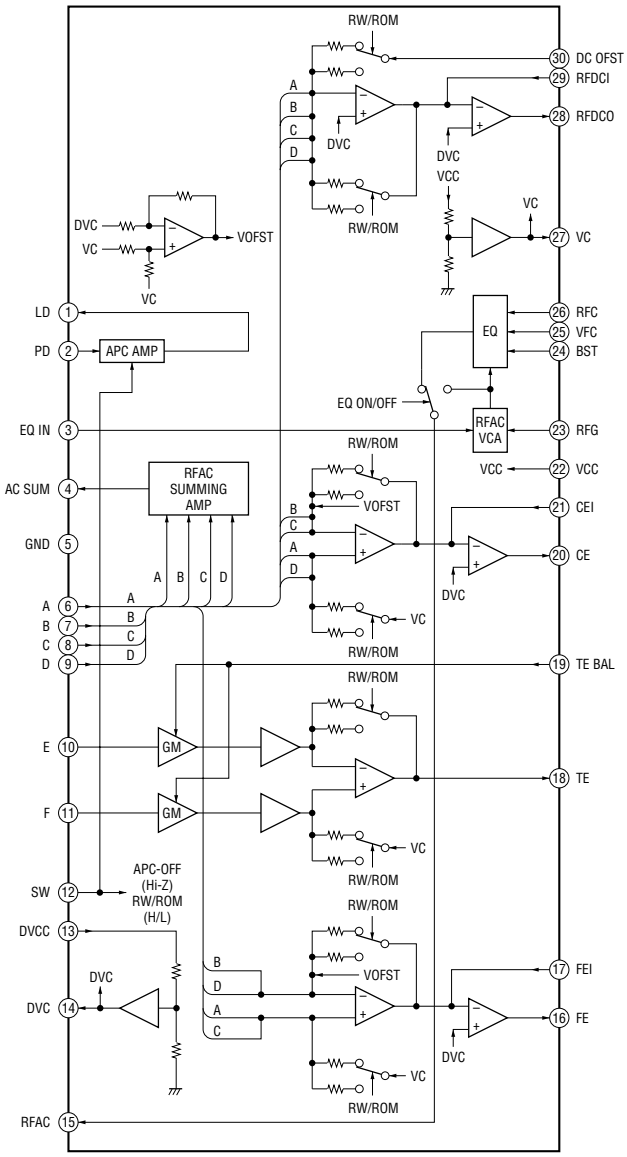
• IC Block Diagrams

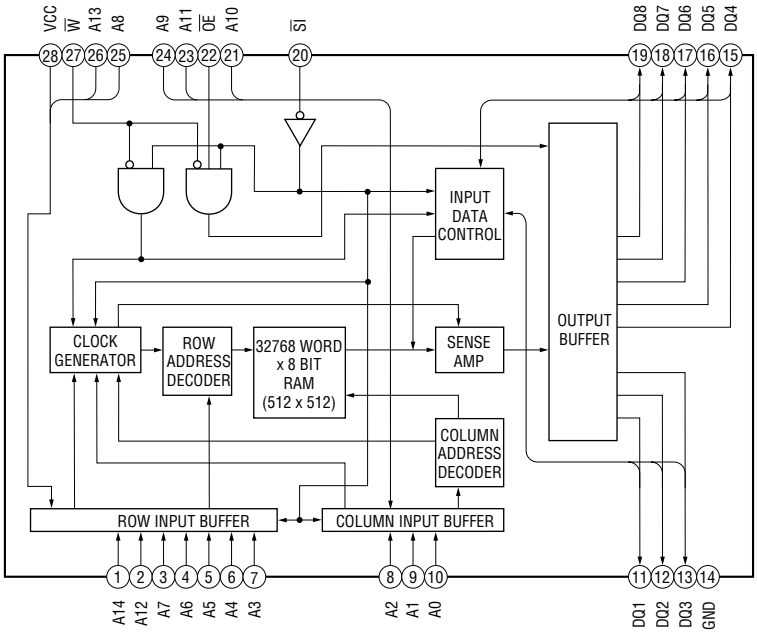
IC101 CXD2587Q (BD Section)



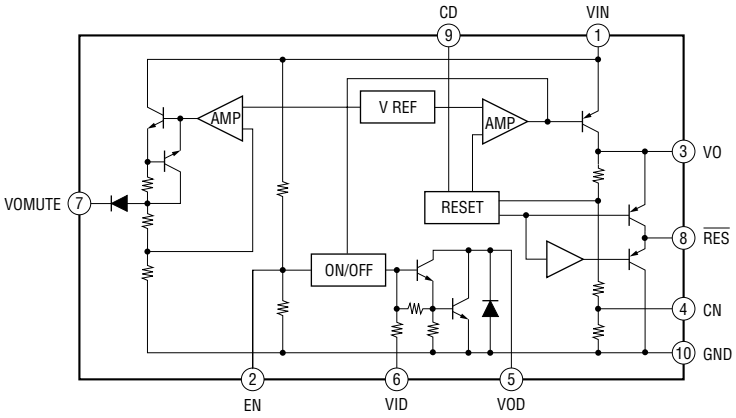
IC131 CXA2581N-T4 (BD Section)



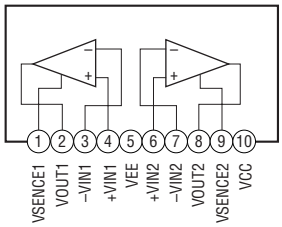
IC504 M5M5256DFP-70XL (MAIN Section)



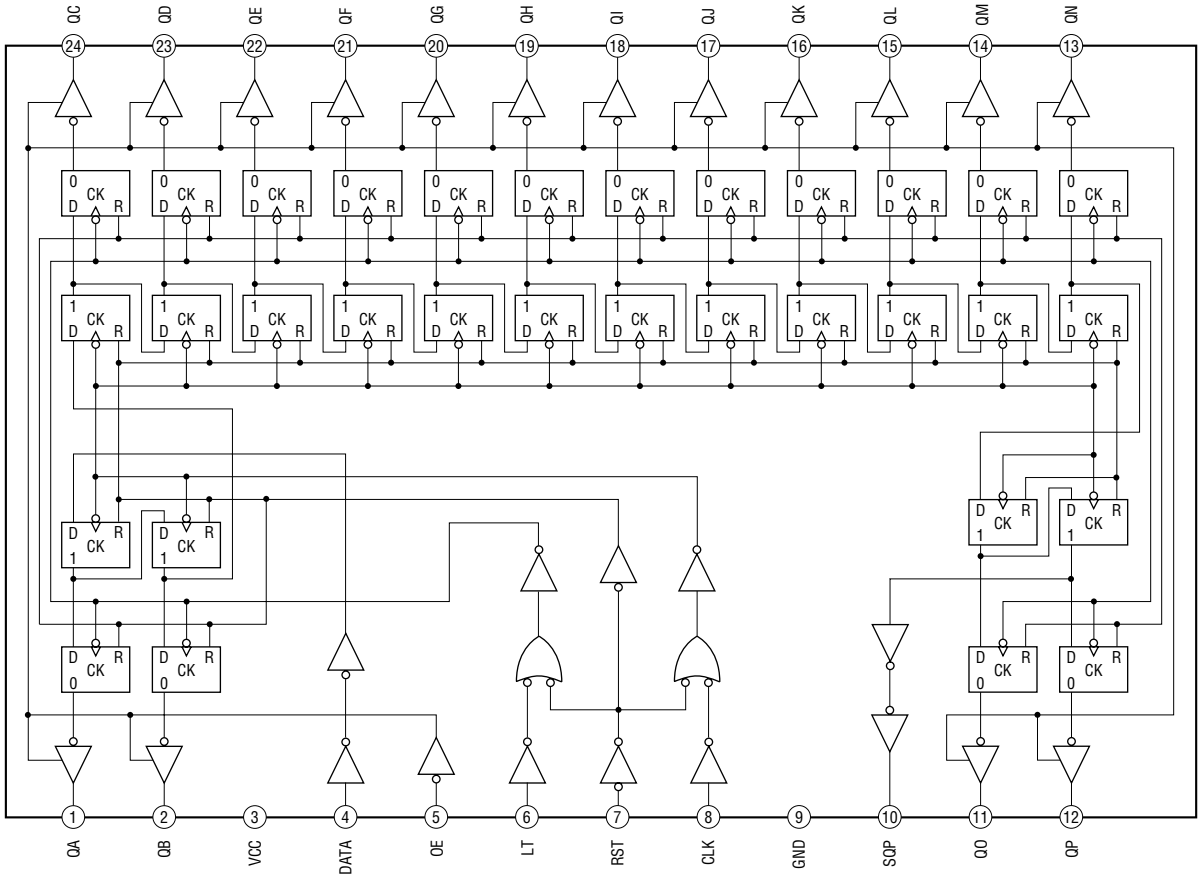
IC931 LA5601 (MAIN Section)



IC505 LA6510 (MIAN Section)



IC702 M66310FP (DISPLAY Section)



7-21. IC Pin Functions

• IC101 DIGITAL SIGNAL PROCESSOR (CXD2587Q) (BD Section)

Pin No.	Pin Name	I/O	Description
1	SQSO	O	Sub-Q 80-bit and PCM peak level data output (CD text data output)
2	SQCK	I	Clock input for SQSO read-out
3	XRST	I	System reset "L" : reset
4	SYSM	I	Muting input "H" : mute
5	DATA	I	Serial data input, supplied from CPU
6	XLAT	I	Latch input, supplied from CPU
7	CLOK	I	Serial data transfer clock input, supplied from CPU
8	SENS	O	SENS signal output to CPU
9	SCLK	I	SENS serial data read-out clock input
10	VDD	—	Digital power supply
11	ATSK	I/O	Input pin for anti-shock (Connected to ground)
12	SPOA	I	Microcomputer escape interface input A
13	SPOB	I	Microcomputer escape interface input B
14	XLON	O	Microcomputer escape interface output (Not used)
15	WFCK	O	WFCK output (Not used)
16	XUGF	O	Not used
17	XPCK	O	Not used
18	GFS	O	Not used
19	C2PO	O	Not used
20	SCOR	O	Sub-code sync output
21	COUT	I/O	Numbers of track counted signal input/output (Not used)
22	MIRR	I/O	Mirror signal input/output (Not used)
23	DFCT	I/O	Defect signal input/output (Not used)
24	FOK	I/O	Focus OK input/output (Not used)
25	LOCK	I/O	GFS is sampled by 460 Hz. H when GFS is H (Not used)
26	MDP	O	Output to control spindle motor servo
27	SSTP	I	Input signal to detect disc inner most track
28	SFDR	O	Sled drive output
29	SRDR	O	Sled drive output
30	TFDR	O	Tracking drive output
31	TRDR	O	Tracking drive output
32	FFDR	O	Focus drive output
33	FRDR	O	Focus drive output
34	VSS	—	Digital ground
35	TEST	I	TEST pin connected normally to ground
36	TES1	I	TEST pin connected normally to ground
37	XTSL	I	X'tal selection input (Connected to ground)
38	VC	I	Center voltage input pin
39	FE	I	Focus error signal input
40	SE	I	Sled error signal input
41	TE	I	Tracking error signal input
42	CE	I	Center servo analog input
43	RFDC	I	RF signal input
44	ADIO	O	Test pin (Not used)
45	AVSS0	—	Analog ground
46	IGEN	I	Stabilized current input for operational amplifiers
47	AVDD0	—	Analog power supply

• Abbreviation
GFS : Guarded Frame Sync

Pin No.	Pin Name	I/O	Description
48	ASYO	O	EFM full swing output
49	ASYI	I	Asymmetry comparate voltage input
50	BIAS	I	Asymmetry circuit constant current input
51	RFAC	I	EFM signal input
52	AVSS3	—	Analog ground
53	CLTV	I	Control voltage input for master VCO1
54	FILO	O	Filter output for master PLL
55	FILI	I	Filter input for master PLL
56	PCO	O	Charge-pump output for master PLL
57	AVDD3	—	Analog power supply
58	VSS	—	Digital ground
59	VDD	—	Digital power supply
60	DOUT	O	Digital-out output pin
61	LRCK	O	D/A interface LR clock output (f = Fs) (Not used)
62	PCMD	O	D/A interface serial data output (Not used)
63	BCK	O	D/A interface bit clock output (Not used)
64	EMPH	O	Playback disc output in emphasis mode (Not used)
65	XVDD	—	Power supply for master clock
66	XTAI	I	X'tal oscillator circuit input (16.9344MHz)
67	XTAO	O	X'tal oscillator circuit output (16.9344MHz)
68	XVSS	—	Ground for master clock
69	AVDD1	—	Analog power supply
70	AOUT1	O	L-ch analog output
71	AIN1	I	L-ch operational amplifiers input
72	LOUT1	O	L-ch line output
73	AVSS1	—	Analog ground
74	AVSS2	—	Analog ground
75	LOUT2	O	R-ch line output
76	AIN2	I	R-ch operational amplifiers input
77	AOUT2	O	R-ch analog output
78	AVDD2	—	Analog power supply
79	RMUT	O	R-ch "0" detection flag output
80	LMUT	O	L-ch "0" detection flag output

• Abbreviation
EFM : Eight to Fourteen Modulation
PLL : Phase Locked Loop

• IC501 SYSTEM CONTROL (MN101C49GSA) (MAIN Section)

Pin No.	Pin Name	I/O	Description
1	GND	—	Ground
2	DOOR SW	I	Door panel SW (5V: OPEN)
3	GND	I	Digital filter (not used)
4	KEY1	I	Key A/D input
5	KEY2	I	
6	KEY3	I	
7	KEY4	I	
8	KEY5	I	
9	D.SENS	I	Disc sensor input
10	VREF	—	A/D standard power terminal
11	VDD	—	Power supply terminal (+5V)
12	OSC2	O	Main clock (10MHz) Output
13	OSC1	I	Main clock (10MHz) Input
14	VSS	—	Ground terminal
15	XI	I	Not used
16	XO	O	Not used
17	GND	—	Ground terminal
18	AC IN	I	Power monitor input
19	ICSW (RELAY ON/OFF)	O	Power terminal for circumference IC
20	LEDLT	O	Latch for LED driver output
21	FLDATA	O	Data for fluorescent indicator driver output
22	FLLT	O	Latch for fluorescent indicator output
23	FLCLK	O	Clock for fluorescent indicator output
24	RESET OUT	O	Reset output for circumference IC
25	STAND-BY LED	O	LED output for STANDBY
26	RMIN	I	Remote control input
27	T2	I	Table sensor input
28	T4	I	
29	BUSIN	I	CONTROL A1 input
30	SCOR	I	Sub code Q synchronous signal
31	KBCIN	I	Keyboard clock input
32	T1	I	Table sensor input
33	RESET	I	System reset signal input
34	KBCOUT	O	Keyboard clock output
35	KBDOUT	O	Keyboard data output
36	KBDIN	I	Keyboard data input
37	TEST-PULSE2	O	DISC detection test output
38	TEST PULSE	O	TSENS1, 2 output
39	AGC	O	CXD2587Q LPH output
40	SMUTE	O	Mute on output
41	AMUTE	I	Mute on input
42	DATA	O	CXD2587Q D/F data output
43	XLT	O	CXD2587Q Latch output
44	CLK	O	CXD2587Q D/F clock output
45	SENS	I	CXD2587Q Servo sensor signal input
46	SUBQ	I	CXD2587Q Q data input
47	SQCK	O	CXD2587Q Q data clock output
48	LED3	O	interior illumination
49	LED2	O	interior illumination
50	LED1	O	interior illumination

Pin No.	Pin Name	I/O	Description
51	SELECT	I	CX691 select port (H: CX691 L: Other)
52	T2	I	Table sensor input
53	SELECT	I	J select port (H: J L: Other)
54	SELECT	I	ES select port (H: ES L: HiFi)
55	SELECT	I	2WAY select port (H: 2WAY L: 1WAY)
56	2WAY-LT	O	U-COM chip enable output (Not used)
57	CX5/CX6	O	Not used
58	CX3/CX4	O	Not used
59	2WAYLT	O	Reset output (Not used)
60	AFADJ	I	AFADJ select port
61	ADJ	I	ADJ mode select port
62	WE	O	SRAM write enable output
63	A13	O	SRAM address output
64	A8	O	
65	A9	O	
66	A10	O	
67	A11	O	
68	A14	O	
69	A12	O	
70	A7	O	
71	A6	O	
72	A5	O	
73	A4	O	
74	A3	O	
75	A2	O	
76	A1	O	
77	A0	O	
78	CS	O	SRAM chip select output
79	D2	I/O	SRAM data input/output
80	D1	I/O	
81	D0	I/O	
82	D3	I/O	
83	D4	I/O	
84	D5	I/O	
85	D6	I/O	
86	D7	I/O	
87	BUSOUT	O	CONTROL-A1 output
88	CD2	I	Remote control mode select input (CD2)
89	CD3	I	Remote control mode select input (CD3)
90	SW	I	Table close switch input
91	INSW	I	Loading in switch input
92	OUTSW	I	Loading out switch input
93	DOOROUT	O	Door open output
94	DOORIN	O	Door close output
95	GND	—	Ground terminal
96	LDOUT	O	Loading motor PWM output for outside direction
97	LDIN	O	Loading motor PWM output for inside direction
98	TBLR	O	Table motor PWM output for right turn
99	TBLL	O	Table motor PWM output for left turn
100	DVDD	—	D/A converter standard power terminal

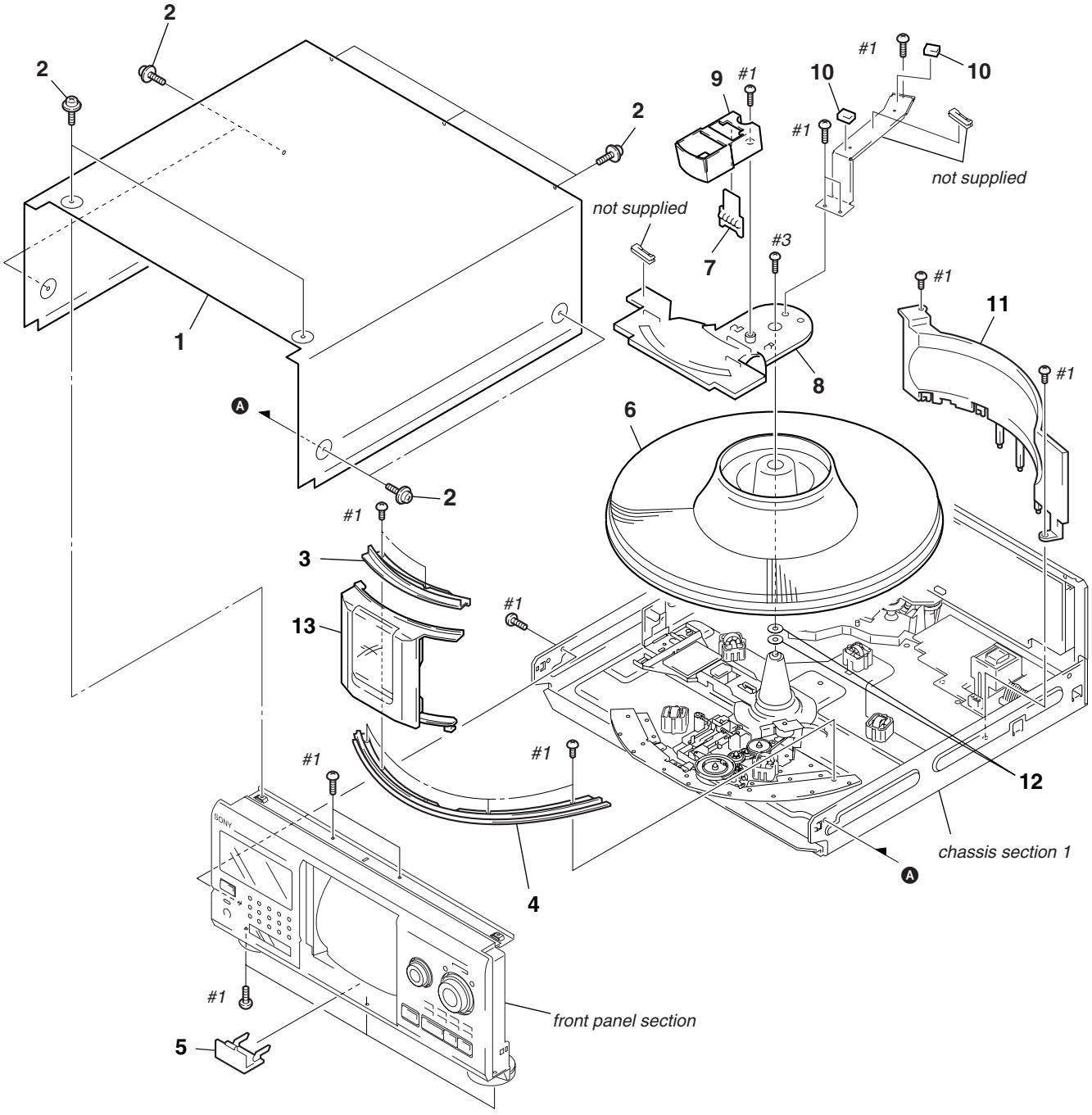
SECTION 8
EXPLODED VIEWS

NOTE:
- -XX, -X mean standardized parts, so they may have some differences from the original one.
- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- The mechanical parts with no reference number in the exploded views are not supplied.
- Hardware (# mark) list and accessories and packing materials are given in the last of this parts list.
- Abbreviation
  CND : Canadian model
  AUS : Australian model
  SP : Singapore model

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

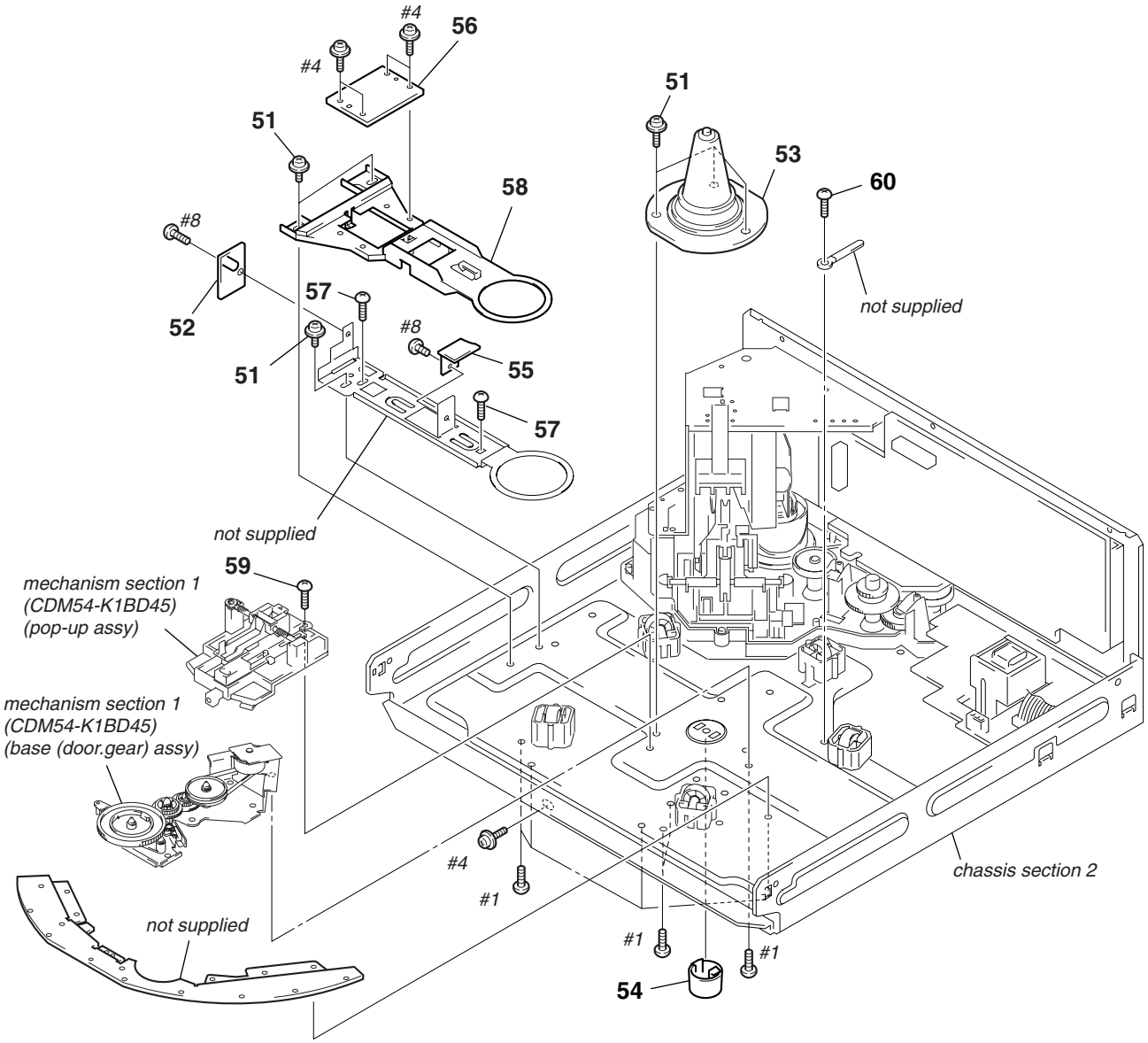
Les composants identifiés par une marque ⚠ sont critiques pour la sécurité.
Ne les remplacer que par une pièce portant le numéro spécifié.

8-1. Case Section



Ref. No.	Part No.	Description	Remarks
1	4-215-970-11	CASE	
2	4-210-291-01	SCREW (CASE 3 TP2)	
3	4-215-954-01	COVER (FRONT)	
4	4-215-952-01	GUIDE (DOOR.B)	
5	4-215-960-01	COVER (CHASSIS)	
6	X-4950-902-1	TABLE (300) ASSY	
7	1-672-633-11	LED BOARD	
8	4-215-953-01	GUIDE (DOOR.T)	
9	4-215-968-01	WINDOW (INTERNAL ILLUMINATION)	
10	4-985-553-11	CUSHION	
11	4-215-967-01	COVER (P.T.)	
12	3-701-447-21	WASHER, 10	
13	X-4950-889-1	DOOR (CD) ASSY	
#1	7-685-646-79	SCREW +BVTP 3X8 TYPE2 N-S	
#3	7-685-650-79	SCREW +BVTP 3X16 TYPE2 N-S	

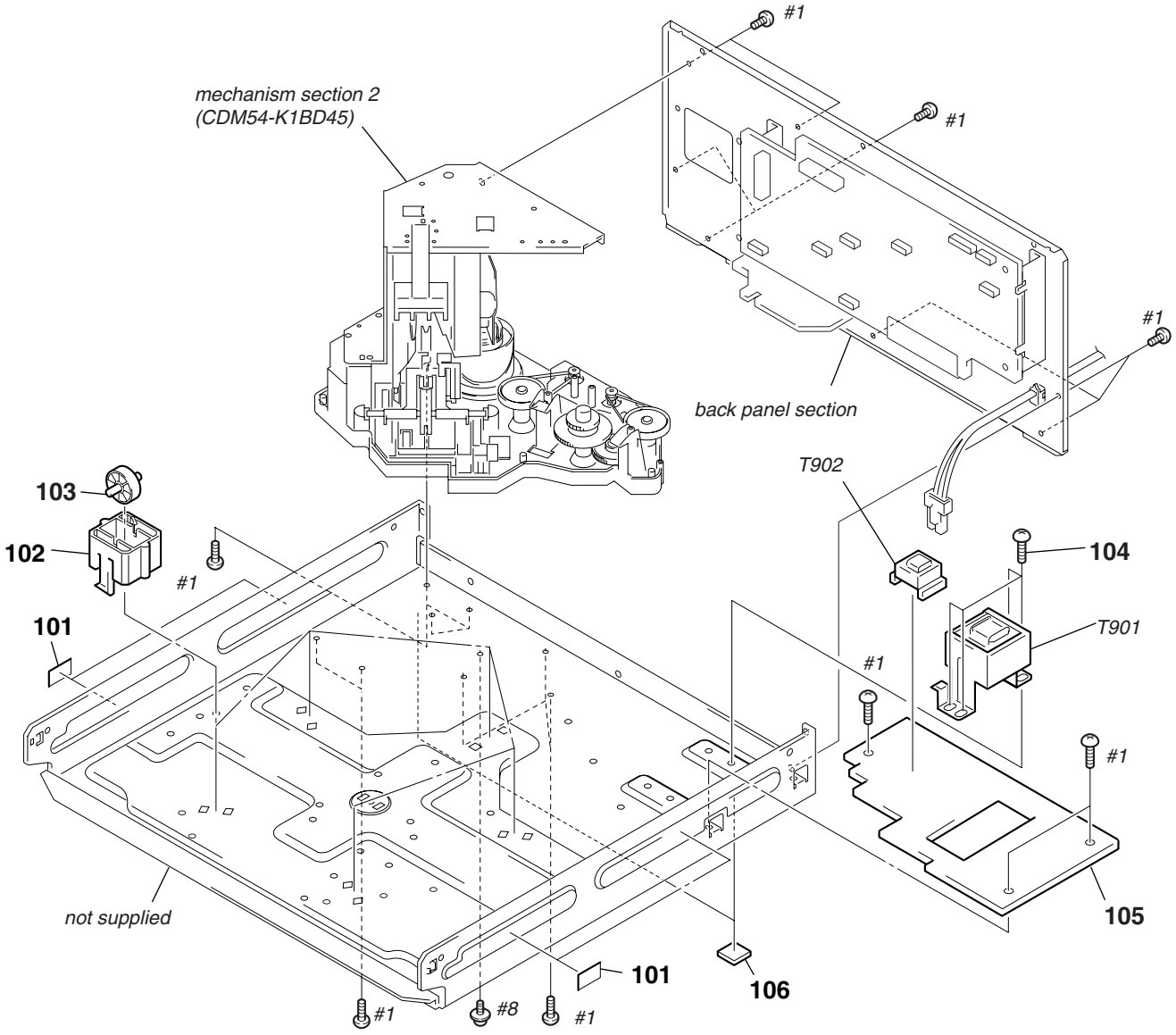
8-2. Chassis Section 1



Ref. No.	Part No.	Description	Remarks
51	3-703-249-01	SCREW, S TIGHT, +PTTWH 3X6	
52	1-672-641-11	D.SENS(OUT) BOARD	
53	4-216-089-01	SHAFT (CENTER)	
54	4-931-169-01	FOOT	
55	1-672-640-11	D.SENS(IN) BOARD	
56	1-672-639-11	T.SENS BOARD	
57	4-216-096-01	SCREW (T1), STEP	

Ref. No.	Part No.	Description	Remarks
58	4-216-091-01	HOLDER (TABLE SENSOR)	
59	3-356-601-11	SCREW, STEP	
60	3-970-608-01	SUMITITE (B3), +BV	
#1	7-685-646-79	SCREW +BVTP 3X8 TYPE2 N-S	
#4	7-685-903-11	SCREW +PTPWH 3X6 (TYPE2)	
#8	7-682-948-01	SCREW +PSW 3X8	

8-3. Chassis Section 2

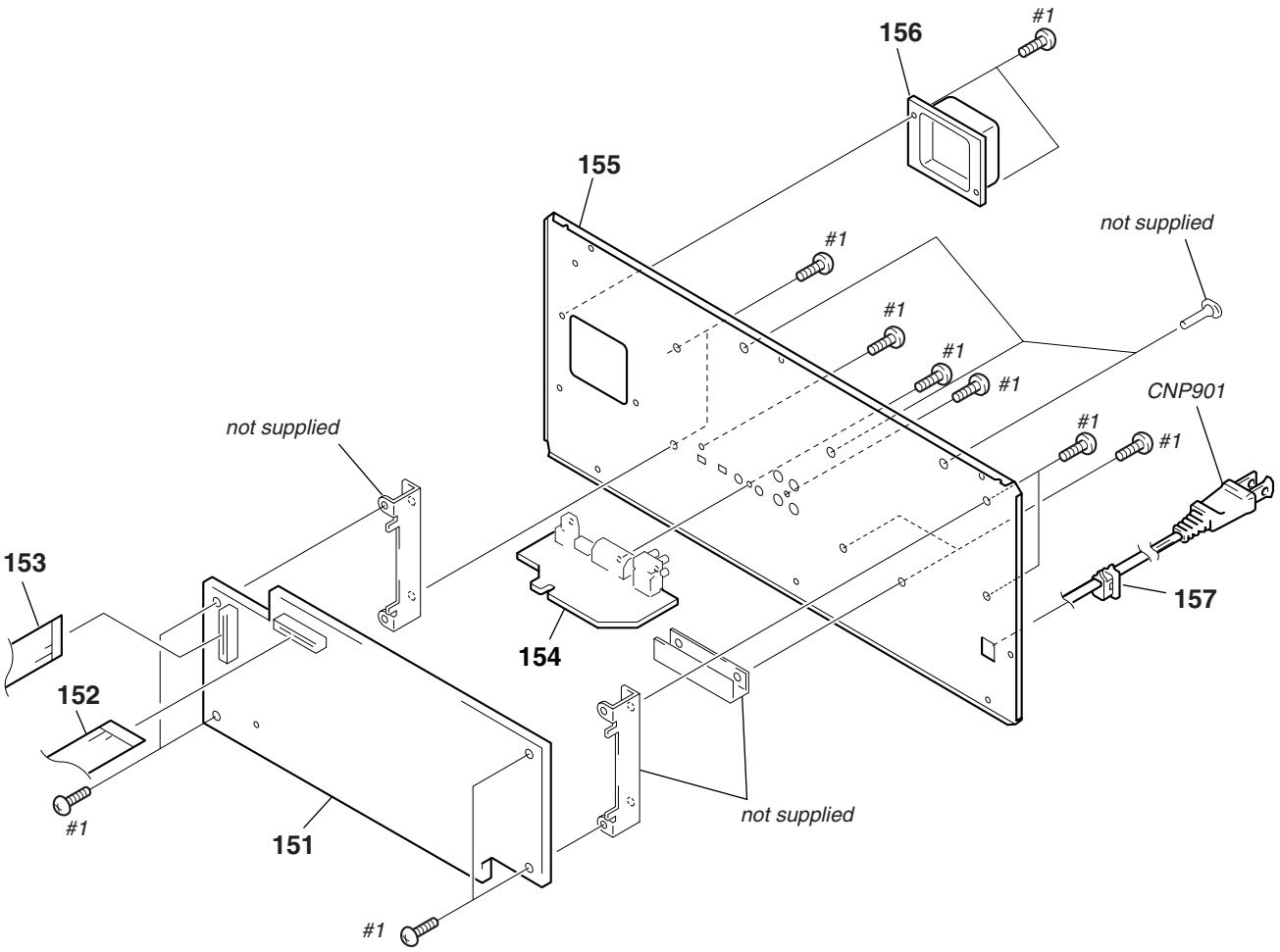


Ref. No.	Part No.	Description	Remarks
101			
102	4-216-092-01	HOLDER (ROLLER)	
103	4-216-093-01	ROLLER	
104	3-703-249-01	SCREW, S TIGHT, +PTTWH 3X6	
105	1-672-638-11	POWER BOARD	
106	4-215-971-01	CUSHION (FOOT)	
⚠T901	1-433-666-11	TRANSFORMER, POWER (SUB) (US, CND, E)	

Ref. No.	Part No.	Description	Remarks
⚠T901	1-433-668-11	TRANSFORMER, POWER (SUB) (AEP, UK, SP)	
⚠T901	1-433-877-11	TRANSFORMER, POWER (SUB) (AUS)	
⚠T902	1-433-663-11	TRANSFORMER, POWER (MAIN) (US, CND, E)	
⚠T902	1-433-665-11	TRANSFORMER, POWER (MAIN)	(AEP, UK, SP, AUS)
#1	7-685-646-79	SCREW +BVTP 3X8 TYPE2 N-S	
#8	7-682-948-01	SCREW +PSW 3X8	

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.	Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

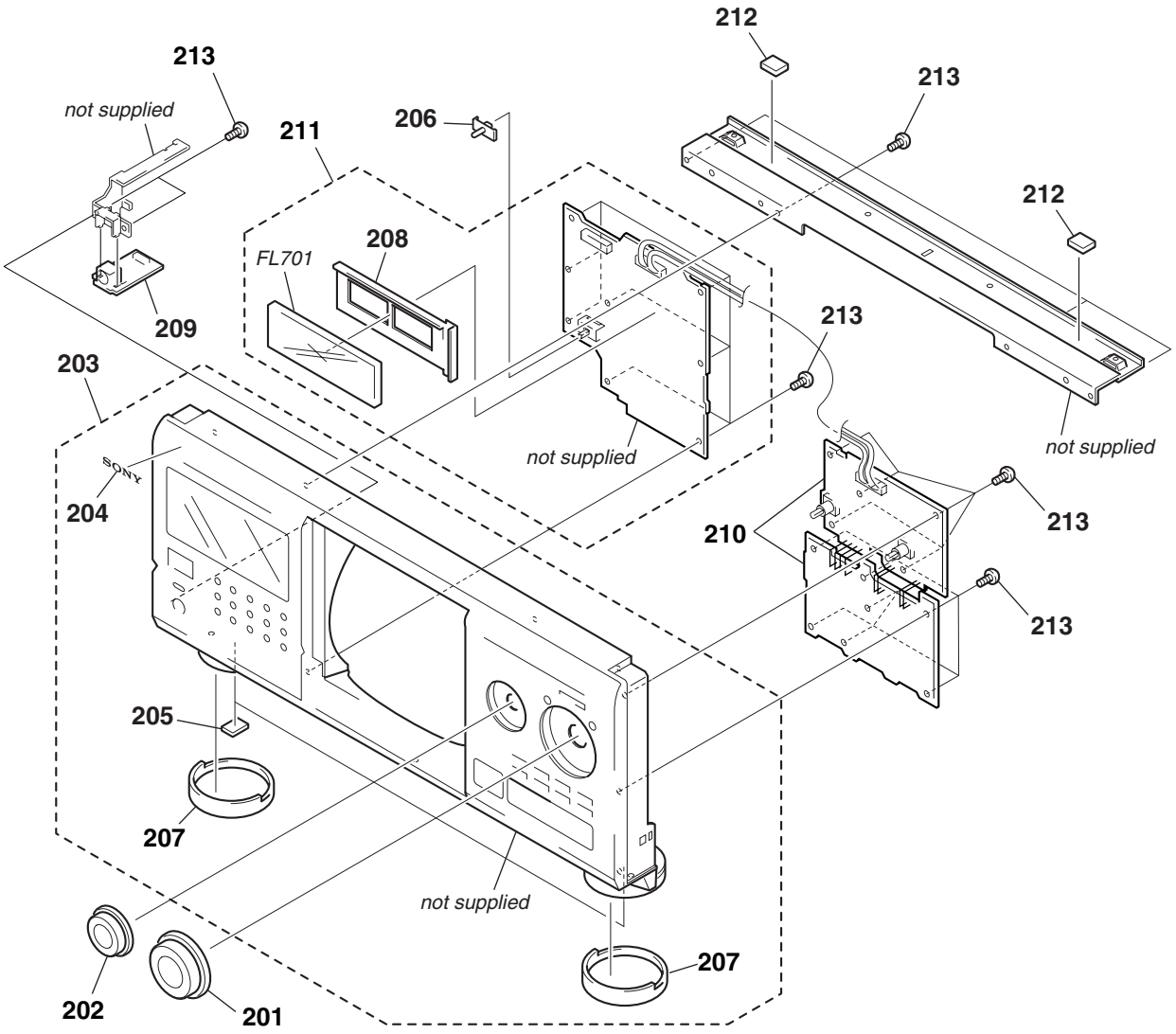
8-4. Back Panel Section



Ref. No.	Part No.	Description	Remarks
151	A-4727-794-A	MAIN BOARD, COMPLETE	
152	1-790-420-11	WIRE (FLAT TYPE) (21 CORE)	
153	1-773-183-11	WIRE (FLAT TYPE) (23 CORE)	
154	1-672-629-12	JACK BOARD	
155	4-238-109-01	PANEL, BACK (US)	
155	4-238-109-11	PANEL, BACK (CND)	
155	4-238-109-21	PANEL, BACK (AEP, UK)	
155	4-238-109-32	PANEL, BACK (SP)	
155	4-238-109-42	PANEL, BACK (AUS)	
155	4-238-109-51	PANEL, BACK (E)"	
* 156	4-982-807-01	COVER (FFC)	
* 157	3-703-244-00	BUSHING (2104), CORD	
⚠ CNP901	1-696-845-11	CORD, POWER (AUS)	
⚠ CNP901	1-777-071-61	CORD, POWER (AEP, UK, SP)	
⚠ CNP901	1-783-531-31	CORD, POWER (US, CND, E)	
#1	7-685-646-79	SCREW +BVTP 3X8 TYPE2 N-S	

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.	Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

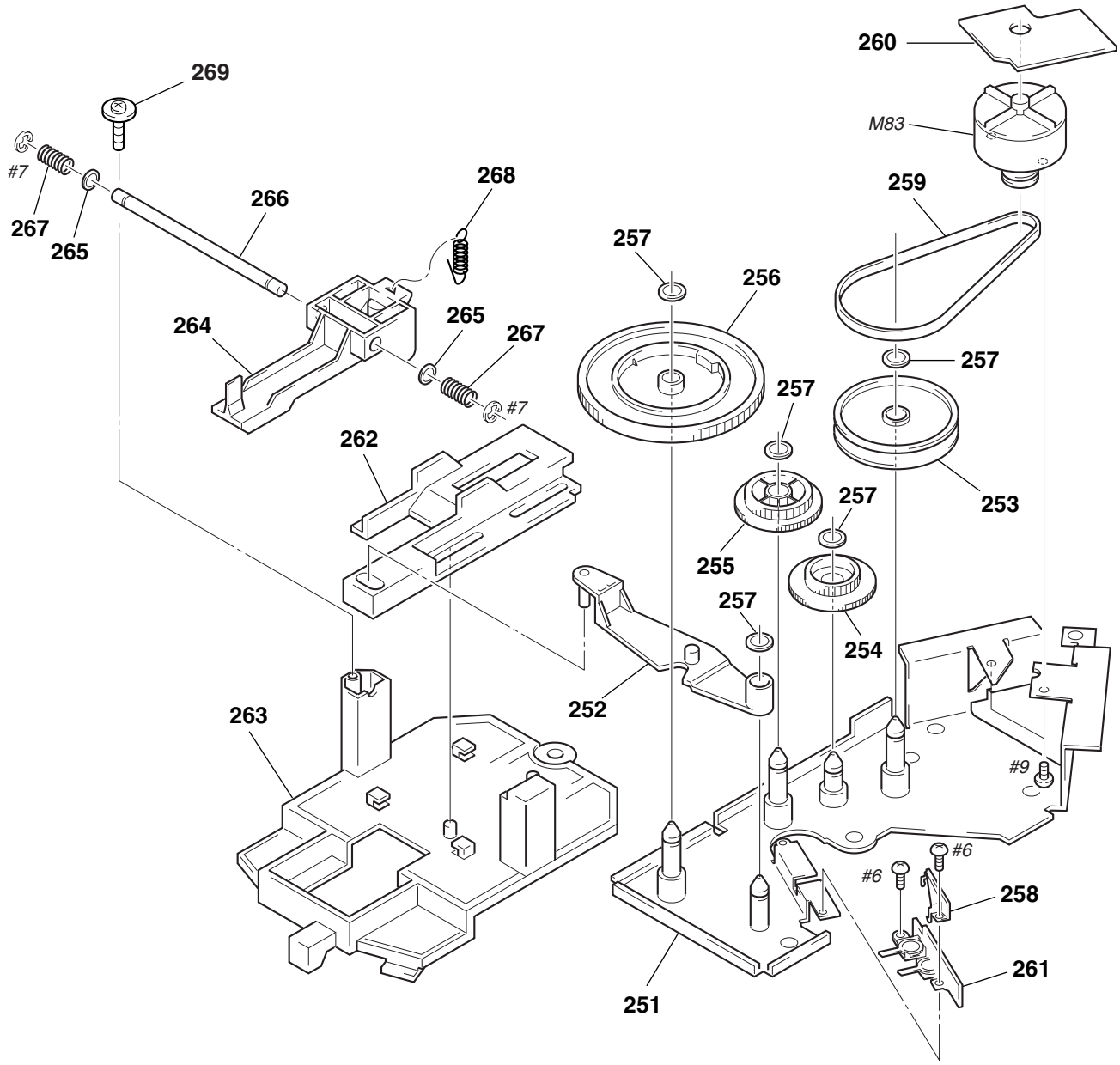
8-5. Front Panel Section



Ref. No.	Part No.	Description	Remarks
201	4-215-818-01	KNOB (DISC)	
202	4-215-819-01	KNOB (AMS)	
203	X-4954-417-1	PANEL ASSY, FRONT (US, CND)	
203	X-4954-470-1	PANEL ASSY, FRONT (AUS, UK, AEP, E, SP)	
204	4-996-698-61	EMBLEM, SONY	
205	4-977-358-01	CUSHION	
206	3-917-216-21	KNOB (TIMER)	
207	4-219-323-01	RING (DIA. 50-CX300)	

Ref. No.	Part No.	Description	Remarks
208	4-982-811-11	HOLDER (FL)	
209	1-672-632-12	KEYBOARD BOARD	
210	A-4727-728-A	JOG BOARD, COMPLETE	
211	A-4727-729-A	DISP BOARD, COMPLETE	
212	4-985-553-21	CUSHION	
213	4-951-620-01	SCREW (2.6X8), +BVTP	
FL701	1-517-861-11	INDICATOR TUBE, FLUORESCENT	

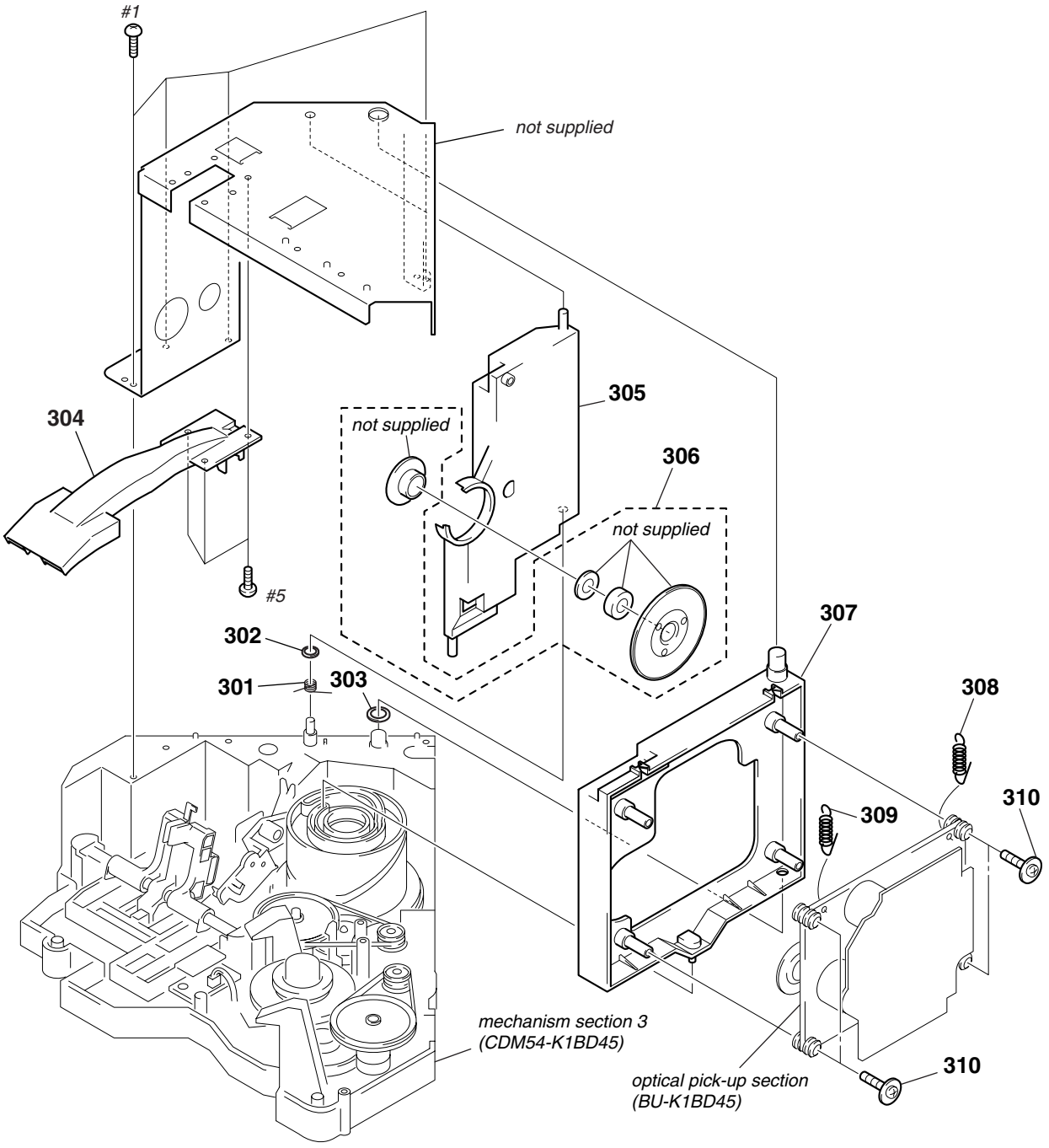
8-6. Mechanism Section 1 (CDM54-K1BD45)
(Pop-up Assy, Base (Door. Gear) Assy)



Ref. No.	Part No.	Description	Remarks
251	X-4950-888-1	BRACKET (DOOR.GEAR) ASSY	
252	4-215-959-01	LEVER (CAM.PU)	
253	4-215-955-01	GEAR (DOOR.PULLEY)	
254	4-215-956-01	GEAR (DOOR.CENTER)	
255	4-215-957-01	GEAR (DOOR.DRIVE)	
256	4-215-958-01	GEAR (DOOR.CAM)	
257	3-325-697-21	WASHER	
258	4-219-324-01	HOLDER (L-SW)	
259	4-219-326-01	BELT (DIA. 42X1.2)	
260	1-672-637-11	D.MOTOR BOARD	
261	1-672-634-11	D.SW BOARD	
262	4-216-099-01	SLIDER (POP-UP)	

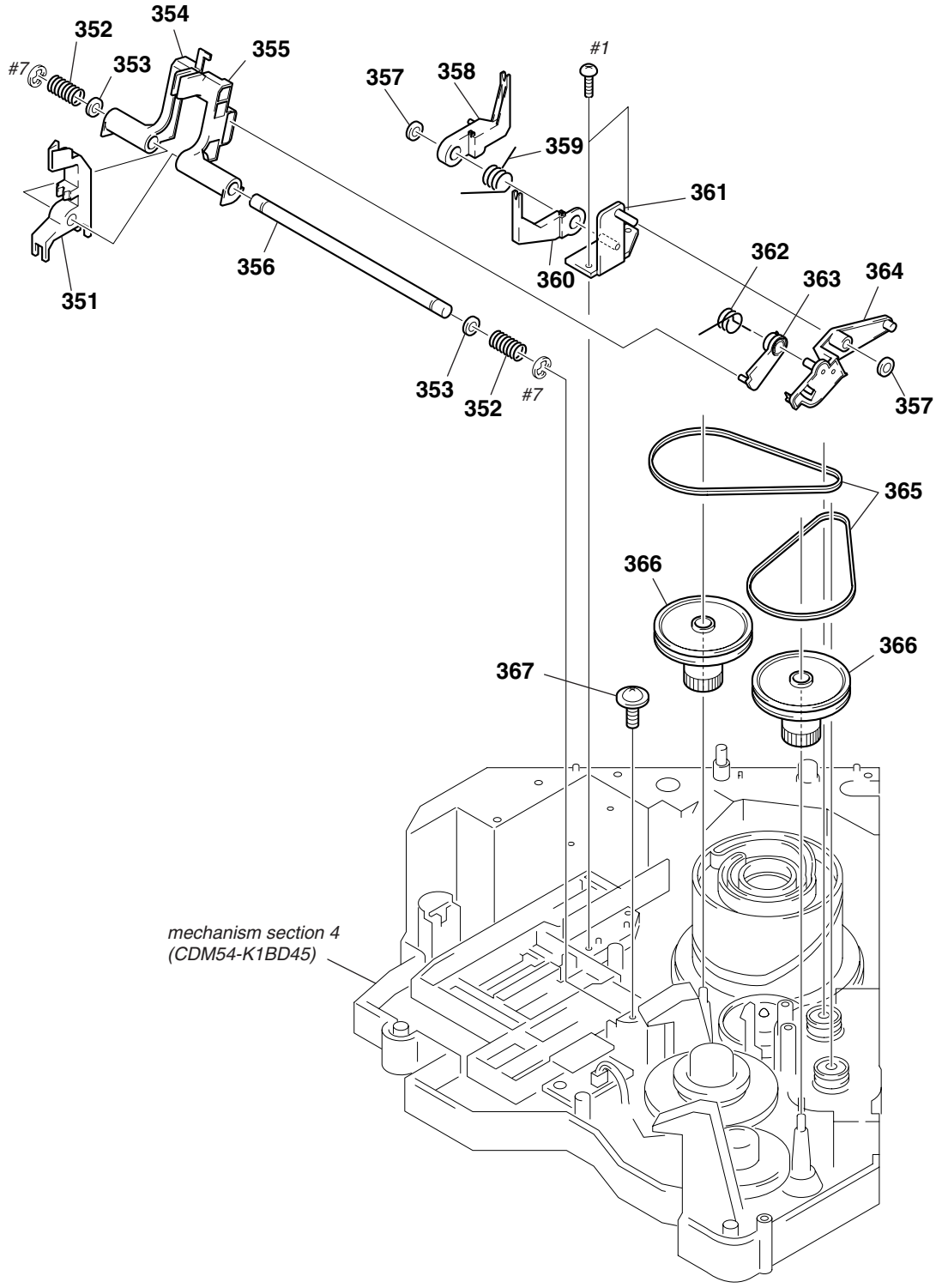
Ref. No.	Part No.	Description	Remarks
263	4-216-100-01	HOLDER (POP-UP)	
264	4-216-098-01	LEVER (POP-UP)	
265	3-701-441-21	WASHER	
266	4-216-102-01	SHAFT (POP-UP FULCRUM)	
267	4-216-103-01	SPRING (POP-UP), COMPRESSION	
268	4-216-104-01	SPRING (POP-UP), TENSION	
269	4-998-716-01	SCREW, BU FITTING	
M83	X-4950-062-1	MOTOR ASSY (DOOR)	
#6	7-685-533-19	SCREW +BTP 2.6X6 TYPE2 N-S	
#7	7-624-106-04	STOP RING 3.0, TYPE -E	
#9	7-621-775-00	SCREW +B 2.6X3	

8-7. Mechanism Section 2 (CDM54-K1BD45)



Ref. No.	Part No.	Description	Remarks
301	4-216-081-01	SPRING (MG), TORSION	
302	3-701-441-21	WASHER	
303	3-701-446-21	WASHER, 8	
304	4-216-088-02	GUIDE (DISC)	
305	4-216-082-01	HOLDER (MAGNET), TORSION	
306	A-4672-768-A	MAGNET ASSY	
307	X-4950-901-4	HOLDER ASSY, BU	
308	4-216-086-01	SPRING (F-2), TENSION	
309	4-216-085-01	SPRING (F-1), TENSION	
310	4-957-577-01	SCREW PTP WH (2.6X8) (DIA. 10)	
#1	7-685-646-79	SCREW +BVTP 3X8 TYPE2 N-S	
#5	7-685-645-79	SCREW +BVTP 3X6 TYPE2 N-S	

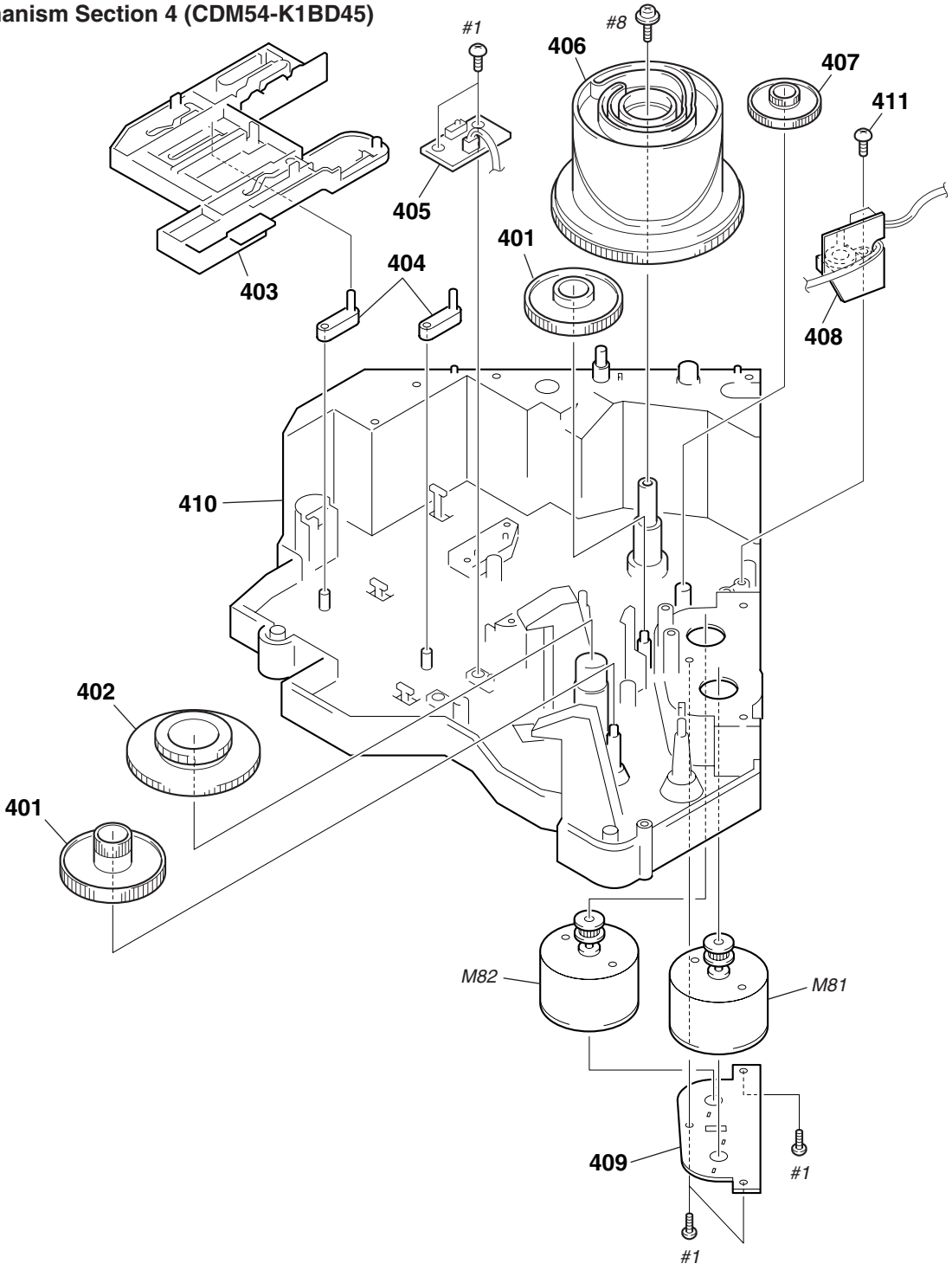
8-8. Mechanism Section 3 (CDM54-K1BD45)



Ref. No.	Part No.	Description	Remarks
351	4-216-070-01	LEVER (LOCK)	
352	4-216-067-01	SPRING (CLAMP), COMPRESSION	
353	3-701-441-21	WASHER	
354	X-4950-885-1	HOLDER (DISC L) ASSY	
355	X-4950-886-1	HOLDER (DISC R) ASSY	
356	4-216-066-01	SHAFT (CLAMP)	
357	3-325-697-21	WASHER	
358	4-216-076-01	HOLDER (R)	
359	4-216-077-01	SPRING (HOLDER FR), TORSION	
360	4-216-075-01	HOLDER (F)	

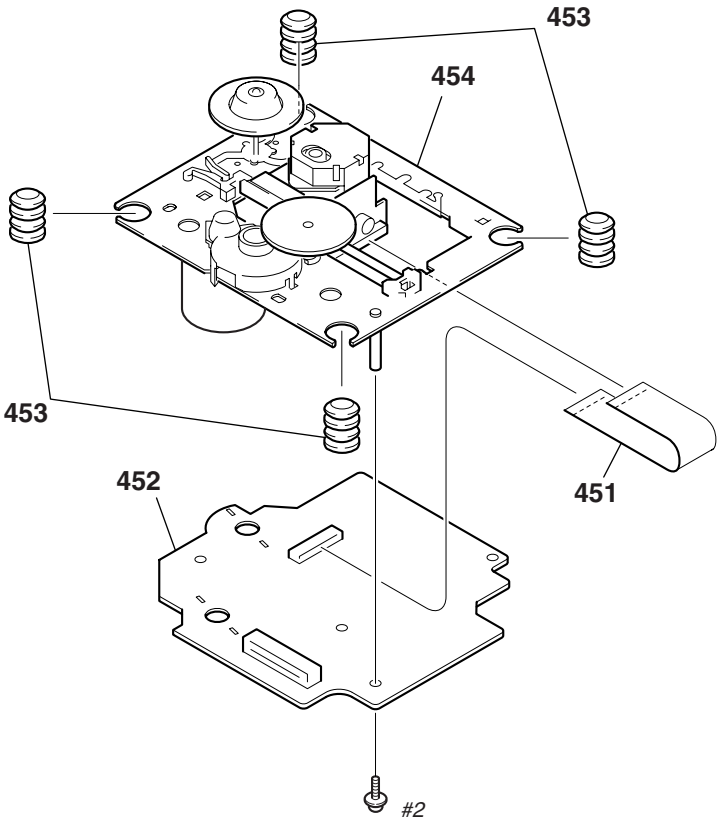
Ref. No.	Part No.	Description	Remarks
361	X-4950-900-1	BRACKET (LEVER) ASSY	
362	4-216-080-01	SPRING (LIMITTER), TORSION	
363	4-216-079-01	LIMITTER (LEVER)	
364	4-216-078-01	LEVER (LOADING)	
365	4-216-061-01	BELT	
366	4-216-060-01	PULLEY (1)	
367	4-998-716-01	SCREW, BU FITTING”	
#1	7-685-646-79	SCREW +BVTP 3X8 TYPE2 N-S	
#7	7-624-106-04	STOP RING 3.0, TYPE -E	

8-9. Mechanism Section 4 (CDM54-K1BD45)



Ref. No.	Part No.	Description	Remarks
401	4-216-058-01	GEAR (CENTER)	
402	4-216-059-01	GEAR (TABLE)	
403	4-216-063-02	SLIDER	
404	4-216-062-01	LEVER (FULCRUM)	
405	1-672-643-11	L.SW(B) BOARD	
406	A-4672-676-A	CAM ASSY	
407	4-216-057-01	GEAR (CENTER 2)	
408	1-672-642-11	L.SW(A) BOARD	
409	1-672-636-11	L.T.MOTOR BOARD	
410	4-216-054-01	BASE (CDM)	
411	4-951-620-01	SCREW (2.6X8), +BVTP	
M81	A-4672-675-A	MOTOR ASSY (TABLE)	
M82	A-4672-675-A	MOTOR ASSY (LOADING)	
#1	7-685-646-79	SCREW +BVTP 3X8 TYPE2 N-S	
#8	7-682-948-01	SCREW +PSW 3X8	

8-10. Optical Pick-up Section (BU-K1BD45)



Ref. No.	Part No.	Description	Remarks
451	1-792-024-11	WIRE (FLAT TYPE) (16 CORE)	
452	A-4727-737-A	BD BOARD, COMPLETE	
* 453	4-992-054-01	RUBBER, VIBRATION PROOF	
⚠454	A-3328-818-A	OPTICAL PICK-UP KSM-213BFN/C2NP	
#2	7-621-772-21	SCREW +B 2X5	

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.	Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

SECTION 9
ELECTRICAL PARTS LIST

BD

NOTE:

- Due to standardization, replacements in the parts list may be different from the parts specified in the diagrams or the components used on the set.
- -XX, -X mean standardized parts, so they may have some difference from the original one.
- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- CAPACITORS:
  uF: µF
- RESISTORS
  All resistors are in ohms.
  METAL: metal-film resistor
  METAL OXIDE: Metal Oxide-film resistor
  F: nonflammable
- COILS
  uH: µH
- SEMICONDUCTORS
  In each case, u: µ, for example:
  uA...: µA... , uPA... , µPA... ,
  uPB... , µPB... , uPC... , µPC... ,
  uPD..., µPD...
- Abbreviation
  CND : Canadian model
  AUS : Australian model
  SP :Singapore model

When indicating parts by reference number, please include the board name.

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

Les composants identifiés par une marque ⚠ sont critiques pour la sécurité.
Ne les remplacer que par une pièce portant le numéro spécifié.

Ref. No.	Part No.	Description			Remarks
	A-4727-737-A	BD BOARD, COMPLETE			
		**********			
		< CAPACITOR >			
C101	1-164-315-11	CERAMIC CHIP	470PF	5.00%	50V
C102	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C103	1-164-315-11	CERAMIC CHIP	470PF	5.00%	50V
C110	1-126-947-11	ELECT	47uF	20.00%	10V
C111	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C112	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C120	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C121	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C122	1-117-863-11	CERAMIC CHIP	0.47uF	10.00%	6.3V
C123	1-162-927-11	CERAMIC CHIP	100PF	5%	50V
C124	1-162-967-11	CERAMIC CHIP	0.0033uF	10%	50V
C125	1-162-966-11	CERAMIC CHIP	0.0022uF	10%	50V
C126	1-107-826-11	CERAMIC CHIP	0.1uF	10.00%	16V
C127	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C128	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C130	1-164-505-11	CERAMIC CHIP	2.2uF		16V
C131	1-164-505-11	CERAMIC CHIP	2.2uF		16V
C132	1-164-505-11	CERAMIC CHIP	2.2uF		16V
C134	1-124-589-11	ELECT	47uF	20%	16V
C135	1-124-589-11	ELECT	47uF	20%	16V
C136	1-107-826-11	CERAMIC CHIP	0.1uF	10.00%	16V
C137	1-124-584-00	ELECT	100uF	20%	10V
C138	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C139	1-162-915-11	CERAMIC CHIP	10PF	5.00%	50V
C142	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C145	1-162-908-11	CERAMIC CHIP	3PF	8.33%	50V
C150	1-126-947-11	ELECT	47uF	20.00%	10V
C151	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C152	1-107-826-11	CERAMIC CHIP	0.1uF	10.00%	16V
C158	1-162-966-11	CERAMIC CHIP	0.0022uF	10%	50V
C171	1-126-947-11	ELECT	47uF	20.00%	10V
C172	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C173	1-162-927-11	CERAMIC CHIP	100PF	5%	50V
C174	1-115-412-11	CERAMIC CHIP	680PF	5.00%	25V
C181	1-126-947-11	ELECT	47uF	20.00%	10V
C182	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C183	1-162-927-11	CERAMIC CHIP	100PF	5%	50V
C184	1-115-412-11	CERAMIC CHIP	680PF	5.00%	25V
C191	1-126-947-11	ELECT	47uF	20.00%	10V
C192	1-164-156-11	CERAMIC CHIP	0.1uF		25V

Ref. No.	Part No.	Description			Remarks
C193	1-162-920-11	CERAMIC CHIP	27PF	5%	50V
C194	1-162-919-11	CERAMIC CHIP	22PF	5%	50V
C195	1-164-156-11	CERAMIC CHIP	0.1uF		25V
		< CONNECTOR >			
CN101	1-784-745-11	CONNECTOR, FFC 23P			
CN102	1-793-907-11	CONNECTOR, FFC/FPC 16P			
		< FERRITE BEAD >			
FB191	1-414-234-22	FERRITE	0UH		
FB192	1-414-234-22	FERRITE	0UH		
		< IC >			
IC101	8-752-386-85	IC CXD2587Q			
IC131	8-752-089-74	IC CXA2581N-T4			
IC150	8-759-677-90	IC BA5947FP-E2			
		< TRANSISTOR >			
Q131	8-729-010-08	TRANSISTOR	MSB710-RT1		
Q132	8-729-600-22	TRANSISTOR	2SA1235TP-1EF		
		< RESISTOR >			
R101	1-216-833-11	METAL CHIP	10K	5%	1/16W
R102	1-216-845-11	METAL CHIP	100K	5%	1/16W
R103	1-216-833-11	METAL CHIP	10K	5%	1/16W
R110	1-216-821-11	METAL CHIP	1K	5%	1/16W
R111	1-216-821-11	METAL CHIP	1K	5%	1/16W
R112	1-216-845-11	METAL CHIP	100K	5%	1/16W
R113	1-216-864-11	METAL CHIP	0	5%	1/16W
R120	1-216-839-11	METAL CHIP	33K	5%	1/16W
R121	1-216-833-11	METAL CHIP	10K	5%	1/16W
R122	1-216-845-11	METAL CHIP	100K	5%	1/16W
R123	1-216-857-11	METAL CHIP	1M	5%	1/16W
R125	1-216-825-11	METAL CHIP	2.2K	5%	1/16W
R126	1-216-833-11	METAL CHIP	10K	5%	1/16W
R127	1-216-821-11	METAL CHIP	1K	5%	1/16W
R129	1-216-815-11	METAL CHIP	330	5%	1/16W
R131	1-216-845-11	METAL CHIP	100K	5%	1/16W
R132	1-216-841-11	METAL CHIP	47K	5%	1/16W
R134	1-216-853-11	METAL CHIP	470K	5%	1/16W
R135	1-216-833-11	METAL CHIP	10K	5%	1/16W
R136	1-216-833-11	METAL CHIP	10K	5%	1/16W

BD | D. MOTOR | D. SENS (IN) | D. SENS (OUT) | D. SW | DISP

Ref. No.	Part No.	Description			Remarks
R137	1-216-797-11	METAL CHIP	10	5%	1/16W
R138	1-216-797-11	METAL CHIP	10	5%	1/16W
R139	1-216-849-11	METAL CHIP	220K	5%	1/16W
R140	1-216-857-11	METAL CHIP	1M	5%	1/16W
R141	1-216-841-11	METAL CHIP	47K	5%	1/16W
R142	1-216-845-11	METAL CHIP	100K	5%	1/16W
R143	1-216-841-11	METAL CHIP	47K	5%	1/16W
R144	1-216-846-11	METAL CHIP	120K	5%	1/16W
R145	1-216-829-11	METAL CHIP	4.7K	5%	1/16W
R146	1-216-841-11	METAL CHIP	47K	5%	1/16W
R149	1-216-821-11	METAL CHIP	1K	5%	1/16W
R151	1-216-853-11	METAL CHIP	470K	5%	1/16W
R152	1-216-849-11	METAL CHIP	220K	5%	1/16W
R153	1-216-864-11	METAL CHIP	0	5%	1/16W
R155	1-216-864-11	METAL CHIP	0	5%	1/16W
R171	1-216-835-11	METAL CHIP	15K	5%	1/16W
R172	1-216-835-11	METAL CHIP	15K	5%	1/16W
R173	1-216-835-11	METAL CHIP	15K	5%	1/16W
R181	1-216-835-11	METAL CHIP	15K	5%	1/16W
R182	1-216-835-11	METAL CHIP	15K	5%	1/16W
R183	1-216-835-11	METAL CHIP	15K	5%	1/16W
R191	1-216-818-11	METAL CHIP	560	5%	1/16W
R192	1-216-809-11	METAL CHIP	100	5%	1/16W
		< SWITCH >			
S101	1-572-085-11	SWITCH, LEAF (LIMIT IN)			
		< VIBRATOR >			
X191	1-795-152-21	VIBRATOR, CRYSTAL (10MHz)			
**********					
	1-672-637-11	D.MOTOR BOARD			
		**********			
**********					
	1-672-640-11	D.SENS(IN) BOARD			
		**********			
*	4-985-300-01	HOLDER (P-T)			
		< TRANSISTOR >			
Q81	8-729-921-53	PHOTO TRANSISTOR ISTOR PT483F1 (DISC SENSOR)			
**********					
	1-672-641-11	D.SENS(OUT) BOARD			
		**********			
		< DIODE >			
D81	8-719-055-84	DIODE GL528VS1 (DISC SENSOR)			
**********					

Ref. No.	Part No.	Description			Remarks
	1-672-634-11	D.SW BOARD			
		**********			
		< RESISTOR >			
R82	1-249-417-11	CARBON	1K	5%	1/4W F
R83	1-249-421-11	CARBON	2.2K	5%	1/4W F
R84	1-249-421-11	CARBON	2.2K	5%	1/4W F
		< SWITCH >			
SW83	1-571-300-21	SWITCH, LEVER SLIDE (CLOSE/OPEN)			
SW84	1-571-300-11	SWITCH, ROTARY (DOWN/UP)			
**********					
	A-4727-729-A	DISP BOARD, COMPLETE			
		**********			
	4-982-811-11	HOLDER (FL)			
		< CAPACITOR >			
C701	1-162-294-31	CERAMIC	0.001uF	10%	50V
C702	1-162-215-31	CERAMIC	47PF	5%	50V
C703	1-162-306-11	CERAMIC	0.01uF	20.00%	16V
C704	1-164-159-11	CERAMIC	0.1uF		50V
C706	1-162-282-31	CERAMIC	100PF	10%	50V
C707	1-162-282-31	CERAMIC	100PF	10%	50V
C708	1-162-282-31	CERAMIC	100PF	10%	50V
C709	1-162-288-31	CERAMIC	330PF	10%	50V
C710	1-124-584-00	ELECT	100uF	20%	10V
C711	1-164-159-11	CERAMIC	0.1uF		50V
C781	1-164-159-11	CERAMIC	0.1uF		50V
C791	1-124-584-00	ELECT	100uF	20%	10V
		< CONNECTOR >			
CN701	1-568-838-11	CONNECTOR, FFC 21P			
		< DIODE >			
D701	8-719-046-39	DIODE SEL5821A-TP15			
D702	8-719-046-39	DIODE SEL5821A-TP15			
D703	8-719-046-39	DIODE SEL5821A-TP15			
D704	8-719-046-39	DIODE SEL5821A-TP15			
D705	8-719-046-39	DIODE SEL5821A-TP15			
D706	8-719-046-39	DIODE SEL5821A-TP15			
D707	8-719-046-39	DIODE SEL5821A-TP15			
D708	8-719-046-39	DIODE SEL5821A-TP15			
D709	8-719-046-39	DIODE SEL5821A-TP15			
D710	8-719-046-44	DIODE SEL5221S-TP15			
		< FLUORESCENT INDICATOR >			
FL701	1-517-861-11	INDICATOR TUBE, FLUORESCENT			
		< IC >			
IC701	8-759-498-92	IC MSM9202-03GS-K			
IC702	8-759-183-47	IC M66310FP			
IC703	8-759-827-70	IC NJL64H400A-1			
		< TRANSISTOR >			
Q701	8-729-116-02	TRANSISTOR	BA1A4M-TP		

DISP JACK JOG

Ref. No.	Part No.	Description			Remarks
		< RESISTOR >			
R701	1-249-441-11	CARBON	100K	5%	1/4W
R702	1-247-807-31	CARBON	100	5%	1/4W
R703	1-247-807-31	CARBON	100	5%	1/4W
R704	1-247-807-31	CARBON	100	5%	1/4W
R705	1-247-807-31	CARBON	100	5%	1/4W
R706	1-247-843-11	CARBON	3.3K	5%	1/4W
R707	1-247-807-31	CARBON	100	5%	1/4W
R708	1-247-807-31	CARBON	100	5%	1/4W
R709	1-247-807-31	CARBON	100	5%	1/4W
R711	1-249-411-11	CARBON	330	5%	1/4W
R712	1-249-411-11	CARBON	330	5%	1/4W
R713	1-249-413-11	CARBON	470	5%	1/4W F
R714	1-249-413-11	CARBON	470	5%	1/4W F
R721	1-249-417-11	CARBON	1K	5%	1/4W F
R722	1-249-421-11	CARBON	2.2K	5%	1/4W F
R723	1-249-421-11	CARBON	2.2K	5%	1/4W F
R724	1-249-425-11	CARBON	4.7K	5%	1/4W F
R725	1-249-429-11	CARBON	10K	5%	1/4W
R726	1-249-433-11	CARBON	22K	5%	1/4W
R727	1-249-437-11	CARBON	47K	5%	1/4W
R731	1-249-417-11	CARBON	1K	5%	1/4W F
R732	1-249-421-11	CARBON	2.2K	5%	1/4W F
R733	1-249-421-11	CARBON	2.2K	5%	1/4W F
R734	1-249-425-11	CARBON	4.7K	5%	1/4W F
R735	1-249-429-11	CARBON	10K	5%	1/4W
R736	1-249-433-11	CARBON	22K	5%	1/4W
R742	1-249-417-11	CARBON	1K	5%	1/4W F
R791	1-249-429-11	CARBON	10K	5%	1/4W
R792	1-249-429-11	CARBON	10K	5%	1/4W
		< SWITCH >			
S721	1-762-875-21	SWITCH, KEYBOARD (GROUP FILE)			
S722	1-762-875-21	SWITCH, KEYBOARD (GROUP 8)			
S723	1-762-875-21	SWITCH, KEYBOARD (GROUP 7)			
S724	1-762-875-21	SWITCH, KEYBOARD (GROUP 6)			
S725	1-762-875-21	SWITCH, KEYBOARD (GROUP 5)			
S726	1-762-875-21	SWITCH, KEYBOARD (GROUP 1)			
S727	1-762-875-21	SWITCH, KEYBOARD (I/O STANDBY)			
S728	1-570-157-51	SWITCH, SLIDE (PLAY/OFF TIMER-SW)			
S731	1-762-875-21	SWITCH, KEYBOARD (GROUP 2)			
S732	1-762-875-21	SWITCH, KEYBOARD (GROUP 3)			
S733	1-762-875-21	SWITCH, KEYBOARD (GROUP 4)			
S734	1-762-875-21	SWITCH, KEYBOARD (CONTINUE)			
S735	1-762-875-21	SWITCH, KEYBOARD (SHUFFLE)			
S736	1-762-875-21	SWITCH, KEYBOARD (PROGRAM)			
S737	1-762-875-21	SWITCH, KEYBOARD (REPEAT)			
S741	1-762-875-21	SWITCH, KEYBOARD (HITLIST)			
S742	1-762-875-21	SWITCH, KEYBOARD (TIME/TEXT)			

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Ref. No.	Part No.	Description			Remarks
	1-672-629-12	JACK BOARD			
		**********			
		< CAPACITOR >			
C327	1-124-282-00	ELECT	22uF	20.00%	25V
C328	1-162-290-31	CERAMIC	470PF	10%	50V
C427	1-124-282-00	ELECT	22uF	20.00%	25V
C428	1-162-290-31	CERAMIC	470PF	10%	50V
C951	1-164-159-11	CERAMIC	0.1uF		50V
C952	1-164-159-11	CERAMIC	0.1uF		50V
C953	1-104-665-11	ELECT	100uF	20.00%	10V
C954	1-164-159-11	CERAMIC	0.1uF		50V
		< IC >			
IC901	8-749-921-12	IC GP1F32T(DIGITAL OUT OPTICAL)			
		< JACK >			
* J901	1-764-188-11	JACK (SMALL TYPE) (DIA. 3.5) (S-LINK CONTROL A1)			
* J902	1-764-188-11	JACK (SMALL TYPE) (DIA. 3.5) (S-LINK CONTROL A1)			
J903	1-784-429-11	JACK, PIN 4P (2ND CD IN/LINE OUT)			
		< COIL >			
L950	1-410-503-11	INDUCTOR	3.3uH		
		< TRANSISTOR >			
Q950	8-729-620-05	TRANSISTOR	2SC2603TP-EF		
		< RESISTOR >			
R339	1-215-485-00	METAL	470K	1%	1/4W
R340	1-215-405-00	METAL	220	1%	1/4W
R439	1-215-485-00	METAL	470K	1%	1/4W
R440	1-215-405-00	METAL	220	1%	1/4W
R950	1-249-425-11	CARBON	4.7K	5%	1/4W F
R951	1-249-429-11	CARBON	10K	5%	1/4W
R952	1-249-393-11	CARBON	10	5%	1/4W F
		< SWITCH >			
S902	1-762-910-11	SWITCH, SLIDE (COMMAND MODE CD)			

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	A-4727-728-A	JOG BOARD, COMPLETE			
		**********			
		< DIODE >			
D711	8-719-046-40	DIODE SEL5521C-TH8F (▷)			
D712	8-719-046-38	DIODE SEL5821A-TH8F (▮▮)			
D713	8-719-033-06	DIODE SEL5920A-TP15 (MEGA CONTROL)			
D714	8-719-032-86	DIODE SEL5420E-TP15 (EASY PLAY)			
D715	8-719-033-06	DIODE SEL5920A-TP15 (MEGA CONTROL)			
D716	8-719-032-86	DIODE SEL5420E-TP15 (EASY PLAY)			

JOG **KEYBOARD** **L. SW (A)** **L. SW (B)** **L. T. MOTOR** **LED**

Ref. No.	Part No.	Description				Remarks
		< RESISTOR >				
R715	1-249-407-11	CARBON	150	5%	1/4W	F
R716	1-249-409-11	CARBON	220	5%	1/4W	F
R717	1-249-401-11	CARBON	47	5%	1/4W	F
R718	1-249-401-11	CARBON	47	5%	1/4W	F
R737	1-249-437-11	CARBON	47K	5%	1/4W	
R743	1-249-421-11	CARBON	2.2K	5%	1/4W	F
R744	1-249-421-11	CARBON	2.2K	5%	1/4W	F
R745	1-249-425-11	CARBON	4.7K	5%	1/4W	F
R746	1-249-429-11	CARBON	10K	5%	1/4W	
R747	1-249-433-11	CARBON	22K	5%	1/4W	
R748	1-249-437-11	CARBON	47K	5%	1/4W	
R752	1-249-417-11	CARBON	1K	5%	1/4W	F
R753	1-249-421-11	CARBON	2.2K	5%	1/4W	F
R754	1-249-421-11	CARBON	2.2K	5%	1/4W	F
R755	1-249-425-11	CARBON	4.7K	5%	1/4W	F
R756	1-249-429-11	CARBON	10K	5%	1/4W	
R757	1-249-433-11	CARBON	22K	5%	1/4W	
R762	1-249-417-11	CARBON	1K	5%	1/4W	F
R763	1-249-421-11	CARBON	2.2K	5%	1/4W	F
R764	1-249-421-11	CARBON	2.2K	5%	1/4W	F
R765	1-249-425-11	CARBON	4.7K	5%	1/4W	F
R766	1-249-429-11	CARBON	10K	5%	1/4W	
R767	1-249-433-11	CARBON	22K	5%	1/4W	
R793	1-249-429-11	CARBON	10K	5%	1/4W	
		< ROTARY ENCODER >				
RE701	1-475-543-11	ENCODER, ROTARY (AMS PUSH ENTER)				
RE702	1-475-543-11	ENCODER, ROTARY (DISC/CHARACTOR PUSH ENTER)				
		< SWITCH >				
S743	1-762-875-21	SWITCH, KEYBOARD (YES)				
S744	1-762-875-21	SWITCH, KEYBOARD (+100)				
S745	1-762-875-21	SWITCH, KEYBOARD (MENU/NO)				
S751	1-762-875-21	SWITCH, KEYBOARD (CLEAR)				
S752	1-762-875-21	SWITCH, KEYBOARD (FADER)				
S753	1-762-875-21	SWITCH, KEYBOARD (CHECK)				
S754	1-762-875-21	SWITCH, KEYBOARD (NO DELAY)				
S755	1-762-875-21	SWITCH, KEYBOARD (MEMO SEARCH)				
S756	1-762-875-21	SWITCH, KEYBOARD (X-FADE)				
S761	1-762-875-21	SWITCH, KEYBOARD (EASY PLAY)				
S762	1-762-875-21	SWITCH, KEYBOARD (MEGA CONTROL)				
S763	1-762-875-21	SWITCH, KEYBOARD (■/DISC EJECT)				
S764	1-762-875-21	SWITCH, KEYBOARD (▮▮)				
S765	1-762-875-21	SWITCH, KEYBOARD (▷)				
S766	1-762-875-21	SWITCH, KEYBOARD (OPEN/CLOSE)				
**********						
	1-672-632-12	KEYBOARD BOARD				
		**********				
		< CAPACITOR >				
C792	1-126-935-11	ELECT	470uF	20.00%	10V	
C821	1-164-159-11	CERAMIC	0.1uF		50V	
C822	1-164-159-11	CERAMIC	0.1uF		50V	

Ref. No.	Part No.	Description				Remarks
		< CONNECTOR >				
* CNP203	1-568-944-11	PIN, CONNECTOR 6P				
		< DIODE >				
D821	8-719-109-85	DIODE RD5.1ES-T2B2				
D822	8-719-109-85	DIODE RD5.1ES-T2B2				
D823	8-719-109-85	DIODE RD5.1ES-T2B2				
		< CONNECTOR >				
J821	1-785-945-11	CONNECTOR, DIN (KEY BOARD)				
		< COIL >				
L821	1-424-122-11	FILTER, NOISE				
L822	1-424-122-11	FILTER, NOISE				
L823	1-424-122-11	FILTER, NOISE				
L824	1-424-122-11	FILTER, NOISE				
		< RESISTOR >				
R801	1-249-429-11	CARBON	10K	5%	1/4W	
**********						
	1-672-642-11	L.SW(A) BOARD				
		**********				
		< SWITCH >				
S81	1-571-300-21	SWITCH, LEVER SLIDE (LOADING DET)				
**********						
	1-672-643-11	L.SW(B) BOARD				
		**********				
S82	1-771-604-11	SWITCH, DETECTION (LOADING)				
**********						
	1-672-636-11	L.T.MOTOR BOARD				
		**********				
**********						
	1-672-633-11	LED BOARD				
		**********				
*	4-976-473-01	HOLDER (LED-S)				
		< CAPACITOR >				
C804	1-164-159-11	CERAMIC	0.1uF		50V	
		< CONNECTOR >				
* CN813	1-568-942-11	PIN, CONNECTOR 4P				
		< DIODE >				
D802	8-719-071-41	DIODE SELS5923C-TP15 (INSIDE ILLUMINATION)				
D803	8-719-071-42	DIODE SEL5723C-TP15 (INSIDE ILLUMINATION)				
D804	8-719-072-76	DIODE SEL5E23C-TP15 (INSIDE ILLUMINATION)				
D805	8-719-071-42	DIODE SEL5723C-TP15 (INSIDE ILLUMINATION)				
D806	8-719-071-41	DIODE SELS5923C-TP15 (INSIDE ILLUMINATION)				

LED MAIN

Ref. No.	Part No.	Description			Remarks
		< RESISTOR >			
R805	1-249-401-11	CARBON	47	5%	1/4W F
R806	1-249-399-11	CARBON	33	5%	1/4W F
R807	1-249-401-11	CARBON	47	5%	1/4W F
**********					
	A-4727-794-A	MAIN BOARD, COMPLETE			
		**********			
	7-685-871-01	SCREW +BVTT	3X6	(S)	
		< CAPACITOR >			
C301	1-126-965-91	ELECT	22uF	20.00%	50V
C304	1-126-965-91	ELECT	22uF	20.00%	50V
C305	1-126-947-11	ELECT	47uF	20.00%	10V
C307	1-126-964-11	ELECT	10uF	20.00%	50V
C321	1-126-963-11	ELECT	4.7uF	20.00%	50V
C329	1-126-962-11	ELECT	3.3uF	20.00%	50V
C401	1-126-965-91	ELECT	22uF	20.00%	50V
C404	1-126-965-91	ELECT	22uF	20.00%	50V
C405	1-126-947-11	ELECT	47uF	20.00%	10V
C407	1-126-964-11	ELECT	10uF	20.00%	50V
C501	1-104-665-11	ELECT	100uF	20.00%	10V
C502	1-164-159-11	CERAMIC	0.1uF		50V
C503	1-161-494-00	CERAMIC	0.022uF		25V
C504	1-104-665-11	ELECT	100uF	20.00%	10V
C505	1-161-494-00	CERAMIC	0.022uF		25V
C510	1-161-494-00	CERAMIC	0.022uF		25V
C512	1-161-494-00	CERAMIC	0.022uF		25V
C514	1-164-159-11	CERAMIC	0.1uF		50V
C516	1-164-159-11	CERAMIC	0.1uF		50V
C518	1-164-159-11	CERAMIC	0.1uF		50V
C520	1-110-489-11	CAPACITOR	1F		5.5V
C521	1-164-159-11	CERAMIC	0.1uF		50V
C530	1-136-165-00	MYLAR	0.1uF	5.00%	50V
C531	1-126-933-11	ELECT	100uF	20.00%	16V
C532	1-164-159-11	CERAMIC	0.1uF		50V
C534	1-164-159-11	CERAMIC	0.1uF		50V
C540	1-136-165-00	MYLAR	0.1uF	5.00%	50V
C541	1-126-933-11	ELECT	100uF	20.00%	16V
C542	1-164-159-11	CERAMIC	0.1uF		50V
C544	1-164-159-11	CERAMIC	0.1uF		50V
C550	1-136-173-00	MYLAR	0.47uF	5.00%	50V
C551	1-136-173-00	MYLAR	0.47uF	5.00%	50V
C552	1-109-953-11	ELECT	2.2uF	20.00%	50V
C553	1-164-159-11	CERAMIC	0.1uF		50V
C554	1-164-159-11	CERAMIC	0.1uF		50V
C555	1-164-159-11	CERAMIC	0.1uF		50V
C559	1-126-967-11	ELECT	47uF	20.00%	50V
C560	1-136-173-00	MYLAR	0.47uF	5.00%	50V
C591	1-104-665-11	ELECT	100uF	20.00%	10V
C592	1-104-665-11	ELECT	100uF	20.00%	10V
C720	1-161-494-00	CERAMIC	0.022uF		25V
C730	1-161-494-00	CERAMIC	0.022uF		25V
C740	1-161-494-00	CERAMIC	0.022uF		25V
C750	1-161-494-00	CERAMIC	0.022uF		25V
C760	1-161-494-00	CERAMIC	0.022uF		25V

Ref. No.	Part No.	Description			Remarks
C913	1-126-768-11	ELECT	2200uF	20.00%	16V
C914	1-126-768-11	ELECT	2200uF	20.00%	16V
C915	1-126-933-11	ELECT	100uF	20.00%	16V
C917	1-126-935-11	ELECT	470uF	20.00%	10V
C923	1-126-768-11	ELECT	2200uF	20.00%	16V
C924	1-126-768-11	ELECT	2200uF	20.00%	16V
C925	1-126-933-11	ELECT	100uF	20.00%	16V
C926	1-126-933-11	ELECT	100uF	20.00%	16V
C927	1-126-935-11	ELECT	470uF	20.00%	10V
C928	1-126-935-11	ELECT	470uF	20.00%	10V
C933	1-126-933-11	ELECT	100uF	20.00%	16V
C936	1-126-963-11	ELECT	4.7uF	20.00%	50V
C938	1-126-935-11	ELECT	470uF	20.00%	16V
C939	1-126-963-11	ELECT	4.7uF	20.00%	50V
C940	1-128-576-11	ELECT	100uF	20.00%	63V
C941	1-126-948-11	ELECT	100uF	20.00%	35V
		< CONNECTOR >			
CN501	1-784-784-11	CONNECTOR, FFC 23P			
CN502	1-568-838-11	CONNECTOR, FFC 21P			
CN503	1-568-955-11	PIN, CONNECTOR 6P			
CN504	1-506-469-11	PIN, CONNECTOR 4P			
CN505	1-506-469-11	PIN, CONNECTOR 4P			
* CN506	1-564-518-11	PLUG, CONNECTOR 3P			
* CN507	1-568-934-11	PIN, CONNECTOR 7P			
* CN508	1-506-469-11	PIN, CONNECTOR 4P			
* CN509	1-506-469-11	PIN, CONNECTOR 4P			
CN510	1-564-509-11	PLUG, CONNECTOR 6P			
* CN511	1-568-935-11	PIN, CONNECTOR 8P			
* CN901	1-564-511-11	PLUG, CONNECTOR 8P			
* CN902	1-564-508-11	PLUG, CONNECTOR 5P			
CN903	1-564-507-11	PLUG, CONNECTOR 4P			
		< DIODE >			
D325	8-719-911-19	DIODE 1SS133T-72			
D327	8-719-911-19	DIODE 1SS133T-72			
D329	8-719-911-19	DIODE 1SS133T-72			
D425	8-719-911-19	DIODE 1SS133T-72			
D501	8-719-911-19	DIODE 1SS133T-72			
D521	8-719-911-19	DIODE 1SS133T-72			
D550	8-719-110-36	DIODE RD13ES-T2B2			
D940	8-719-024-99	DIODE 11ES2-NTA2B			
D941	8-719-110-72	DIODE RD30ES-T2B2			
D942	8-719-109-93	DIODE RD6.2ES-T2B2			
		< IC >			
IC302	8-759-634-51	IC NJM4558D			
IC401	8-759-634-51	IC NJM4558D			
IC402	8-759-634-51	IC NJM4558D			
IC501	6-801-210-01	IC MN101C49GSA			
IC504	8-759-463-99	IC M5M5256DFP-70XL			
IC505	8-759-822-38	IC LA6510			
IC506	8-759-822-38	IC LA6510			
IC910	8-759-094-53	IC TA7805S(LBSONY)			
IC920	8-759-605-00	IC TA7807S(LBSONY)			
IC921	8-759-094-53	IC TA7805S(LBSONY)			
IC930	8-759-173-39	IC NJU7201L50-T3			
IC931	8-759-821-93	IC LA5601			

MAIN

Ref. No.	Part No.	Description		Remarks
		< TRANSISTOR >		
Q321	8-729-141-26	TRANSISTOR	2SC3622ATP-LK	
Q322	8-729-141-26	TRANSISTOR	2SC3622ATP-LK	
Q323	8-729-141-26	TRANSISTOR	2SC3622ATP-LK	
Q324	8-729-141-26	TRANSISTOR	2SC3622ATP-LK	
Q325	8-729-900-65	TRANSISTOR	BN1L4M-TP	
Q326	8-729-900-65	TRANSISTOR	BN1L4M-TP	
Q327	8-729-900-65	TRANSISTOR	BN1L4M-TP	
Q328	8-729-900-65	TRANSISTOR	BN1L4M-TP	
Q329	8-729-900-65	TRANSISTOR	BN1L4M-TP	
Q421	8-729-141-26	TRANSISTOR	2SC3622ATP-LK	
Q422	8-729-141-26	TRANSISTOR	2SC3622ATP-LK	
Q423	8-729-141-26	TRANSISTOR	2SC3622ATP-LK	
Q424	8-729-141-26	TRANSISTOR	2SC3622ATP-LK	
Q425	8-729-900-65	TRANSISTOR	BN1L4M-TP	
Q426	8-729-900-65	TRANSISTOR	BN1L4M-TP	
Q521	8-729-030-08	TRANSISTOR	DTC144VSA-TP	
Q550	8-729-900-89	TRANSISTOR	BA1L4M-TP	
Q551	8-729-900-65	TRANSISTOR	BN1L4M-TP	
Q552	8-729-900-65	TRANSISTOR	BN1L4M-TP	
Q559	8-729-620-05	TRANSISTOR	2SC2603TP-EF	
Q560	8-729-900-89	TRANSISTOR	BA1L4M-TP	
Q561	8-729-900-65	TRANSISTOR	BN1L4M-TP	
Q562	8-729-900-65	TRANSISTOR	BN1L4M-TP	
Q570	8-729-116-02	TRANSISTOR	BA1A4M-TP	
Q571	8-729-116-02	TRANSISTOR	BA1A4M-TP	
Q572	8-729-422-57	TRANSISTOR	BN1A4M-TP	
Q573	8-729-422-57	TRANSISTOR	BN1A4M-TP	
Q574	8-729-422-57	TRANSISTOR	BN1A4M-TP	
Q576	8-729-422-57	TRANSISTOR	BN1A4M-TP	
Q940	8-729-140-97	TRANSISTOR	2SB734-T-34	
		< RESISTOR >		
R1	1-249-429-11	CARBON	10K 5% 1/4W	
R301	1-249-433-11	CARBON	22K 5% 1/4W	
R302	1-249-419-11	CARBON	1.5K 5% 1/4W	F
R303	1-249-419-11	CARBON	1.5K 5% 1/4W	F
R304	1-249-429-11	CARBON	10K 5% 1/4W	
R305	1-249-428-11	CARBON	8.2K 5% 1/4W	F
R306	1-247-895-00	CARBON	470K 5% 1/4W	
R307	1-249-420-11	CARBON	1.8K 5% 1/4W	F
R308	1-249-428-11	CARBON	8.2K 5% 1/4W	F
R309	1-249-415-11	CARBON	680 5% 1/4W	F
R310	1-249-429-11	CARBON	10K 5% 1/4W	
R311	1-249-429-11	CARBON	10K 5% 1/4W	
R312	1-249-429-11	CARBON	10K 5% 1/4W	
R313	1-247-887-00	CARBON	220K 5% 1/4W	
R314	1-249-409-11	CARBON	220 5% 1/4W	F
R315	1-249-409-11	CARBON	220 5% 1/4W	F
R316	1-249-393-11	CARBON	10 5% 1/4W	F
R317	1-249-428-11	CARBON	8.2K 5% 1/4W	F
R321	1-249-421-11	CARBON	2.2K 5% 1/4W	F
R322	1-249-421-11	CARBON	2.2K 5% 1/4W	F
R323	1-249-421-11	CARBON	2.2K 5% 1/4W	F
R324	1-249-421-11	CARBON	2.2K 5% 1/4W	F
R325	1-249-441-11	CARBON	100K 5% 1/4W	
R326	1-249-441-11	CARBON	100K 5% 1/4W	
R327	1-249-441-11	CARBON	100K 5% 1/4W	
R328	1-249-441-11	CARBON	100K 5% 1/4W	
R329	1-249-441-11	CARBON	100K 5% 1/4W	
R401	1-249-433-11	CARBON	22K 5% 1/4W	
R402	1-249-419-11	CARBON	1.5K 5% 1/4W	F
R403	1-249-419-11	CARBON	1.5K 5% 1/4W	F
R404	1-249-429-11	CARBON	10K 5% 1/4W	
R405	1-249-428-11	CARBON	8.2K 5% 1/4W	F
R406	1-247-895-00	CARBON	470K 5% 1/4W	
R407	1-249-420-11	CARBON	1.8K 5% 1/4W	F
R408	1-249-428-11	CARBON	8.2K 5% 1/4W	F
R409	1-249-415-11	CARBON	680 5% 1/4W	F
R410	1-249-429-11	CARBON	10K 5% 1/4W	
R411	1-249-429-11	CARBON	10K 5% 1/4W	
R412	1-249-429-11	CARBON	10K 5% 1/4W	
R413	1-247-887-00	CARBON	220K 5% 1/4W	
R414	1-249-409-11	CARBON	220 5% 1/4W	F
R415	1-249-409-11	CARBON	220 5% 1/4W	F
R416	1-249-393-11	CARBON	10 5% 1/4W	F
R417	1-249-428-11	CARBON	8.2K 5% 1/4W	F
R421	1-249-421-11	CARBON	2.2K 5% 1/4W	F
R422	1-249-421-11	CARBON	2.2K 5% 1/4W	F
R423	1-249-421-11	CARBON	2.2K 5% 1/4W	F
R424	1-249-421-11	CARBON	2.2K 5% 1/4W	F
R425	1-249-441-11	CARBON	100K 5% 1/4W	
R426	1-249-441-11	CARBON	100K 5% 1/4W	
R501	1-249-429-11	CARBON	10K 5% 1/4W	
R502	1-249-429-11	CARBON	10K 5% 1/4W	
R503	1-249-441-11	CARBON	100K 5% 1/4W	
R504	1-249-429-11	CARBON	10K 5% 1/4W	
R505	1-249-429-11	CARBON	10K 5% 1/4W	
R506	1-249-429-11	CARBON	10K 5% 1/4W	
R507	1-249-429-11	CARBON	10K 5% 1/4W	
R508	1-249-429-11	CARBON	10K 5% 1/4W	
R509	1-249-429-11	CARBON	10K 5% 1/4W	
R510	1-249-429-11	CARBON	10K 5% 1/4W	
R516	1-249-429-11	CARBON	10K 5% 1/4W	
R517	1-249-429-11	CARBON	10K 5% 1/4W	
R518	1-249-437-11	CARBON	47K 5% 1/4W	
R520	1-249-429-11	CARBON	10K 5% 1/4W	
R521	1-249-429-11	CARBON	10K 5% 1/4W	
R522	1-249-403-11	CARBON	68 5% 1/4W	F
R523	1-249-403-11	CARBON	68 5% 1/4W	F
R530	1-247-860-11	CARBON	16K 5% 1/4W	
R531	1-247-885-00	CARBON	180K 5% 1/4W	
R532	1-247-885-00	CARBON	180K 5% 1/4W	
R533	1-247-883-00	CARBON	150K 5% 1/4W	
R534	1-249-382-11	CARBON	1.2 5% 1/6W	F
R535	1-249-382-11	CARBON	1.2 5% 1/6W	F
R536	1-249-393-11	CARBON	10 5% 1/4W	F
R537	1-249-431-11	CARBON	15K 5% 1/4W	
R540	1-247-860-11	CARBON	16K 5% 1/4W	
R541	1-247-885-00	CARBON	180K 5% 1/4W	
R542	1-247-885-00	CARBON	180K 5% 1/4W	
R543	1-247-883-00	CARBON	150K 5% 1/4W	
R544	1-249-382-11	CARBON	1.2 5% 1/6W	F

MAIN **POWER**

Ref. No.	Part No.	Description			Remarks
R545	1-249-382-11	CARBON	1.2	5%	1/6W F
R546	1-249-393-11	CARBON	10	5%	1/4W F
R547	1-249-431-11	CARBON	15K	5%	1/4W
R550	1-249-421-11	CARBON	2.2K	5%	1/4W F
R551	1-249-441-11	CARBON	100K	5%	1/4W
R552	1-249-417-11	CARBON	1K	5%	1/4W F
R553	1-249-441-11	CARBON	100K	5%	1/4W
R554	1-247-883-00	CARBON	150K	5%	1/4W
R555	1-249-425-11	CARBON	4.7K	5%	1/4W F
R556	1-249-382-11	CARBON	1.2	5%	1/6W F
R557	1-249-382-11	CARBON	1.2	5%	1/6W F
R558	1-247-807-31	CARBON	100	5%	1/4W
R559	1-249-419-11	CARBON	1.5K	5%	1/4W F
R560	1-249-421-11	CARBON	2.2K	5%	1/4W F
R561	1-249-441-11	CARBON	100K	5%	1/4W
R562	1-249-417-11	CARBON	1K	5%	1/4W F
R563	1-249-441-11	CARBON	100K	5%	1/4W
R564	1-247-883-00	CARBON	150K	5%	1/4W
R565	1-249-425-11	CARBON	4.7K	5%	1/4W F
R566	1-249-382-11	CARBON	1.2	5%	1/6W F
R567	1-249-382-11	CARBON	1.2	5%	1/6W F
R569	1-249-419-11	CARBON	1.5K	5%	1/4W F
R570	1-249-425-11	CARBON	4.7K	5%	1/4W F
R571	1-249-425-11	CARBON	4.7K	5%	1/4W F
R591	1-247-807-31	CARBON	100	5%	1/4W
R592	1-247-807-31	CARBON	100	5%	1/4W
R593	1-247-807-31	CARBON	100	5%	1/4W
R594	1-247-807-31	CARBON	100	5%	1/4W
R595	1-247-807-31	CARBON	100	5%	1/4W
R720	1-249-429-11	CARBON	10K	5%	1/4W
R730	1-249-429-11	CARBON	10K	5%	1/4W
R740	1-249-429-11	CARBON	10K	5%	1/4W
R750	1-249-429-11	CARBON	10K	5%	1/4W
R760	1-249-429-11	CARBON	10K	5%	1/4W
R940	1-249-425-11	CARBON	4.7K	5%	1/4W F
R941	1-249-425-11	CARBON	4.7K	5%	1/4W F
		< VARIABLE RESISTOR >			
RV501	1-241-786-11	RES, ADJ, CARBON 22K			
		< VIBRATOR >			
X501	1-579-175-11	VIBRATOR, CERAMIC (10MHz)			

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	1-672-638-11	POWER BOARD			
		**********			
		< CAPACITOR >			
⚠C901	1-113-925-11	CERAMIC	0.01uF	20.00%	250V
C910	1-161-494-00	CERAMIC	0.022uF		25V
C911	1-126-767-11	ELECT	1000uF	20.00%	16V
C912	1-126-767-11	ELECT	1000uF	20.00%	16V
C920	1-161-494-00	CERAMIC	0.022uF		25V
C921	1-126-767-11	ELECT	1000uF	20.00%	16V
C922	1-126-767-11	ELECT	1000uF	20.00%	16V
C932	1-126-936-11	ELECT	3300uF	20.00%	16V
C937	1-126-960-11	ELECT	1uF	20.00%	50V

Ref. No.	Part No.	Description			Remarks
		< CONNECTOR >			
* CN991	1-580-230-11	PIN, CONNECTOR (PC BOARD) 2P			
		< DIODE >			
D901	8-719-911-19	DIODE 1SS133T-72			
D910	8-719-024-99	DIODE 11ES2-NTA2B			
D911	8-719-024-99	DIODE 11ES2-NTA2B			
D912	8-719-024-99	DIODE 11ES2-NTA2B			
D913	8-719-024-99	DIODE 11ES2-NTA2B			
D920	8-719-200-77	DIODE 10E2N-TA2B			
D921	8-719-200-77	DIODE 10E2N-TA2B			
D922	8-719-200-77	DIODE 10E2N-TA2B			
D923	8-719-200-77	DIODE 10E2N-TA2B			
D930	8-719-911-19	DIODE 1SS133T-72			
D931	8-719-911-19	DIODE 1SS133T-72			
D932	8-719-210-21	DIODE 11EQS04-TA2B			
D933	8-719-210-21	DIODE 11EQS04-TA2B			
D934	8-719-210-21	DIODE 11EQS04-TA2B			
D935	8-719-210-21	DIODE 11EQS04-TA2B			
D939	8-719-911-19	DIODE 1SS133T-72			
		< GROUND TERMINAL >			
EB1	1-537-770-21	TERMINAL BOARD, GROUND			
EB2	1-537-770-21	TERMINAL BOARD, GROUND			
		< LINE FILTER >			
⚠L901	1-424-485-11	FILTER, LINE			
		< TRANSISTOR >			
Q930	8-729-620-05	TRANSISTOR	2SC2603TP-EF		
		< RESISTOR >			
R930	1-249-429-11	CARBON	10K	5%	1/4W
R931	1-249-421-11	CARBON	2.2K	5%	1/4W F
R933	1-249-429-11	CARBON	10K	5%	1/4W
R934	1-249-417-11	CARBON	1K	5%	1/4W F
		< RELAY >			
⚠RY901	1-755-299-11	RELAY			

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T. SENS

Ref. No.	Part No.	Description				Remarks
	1-672-639-11	T.SENS BOARD				
		**********				
		< CONNECTOR >				
* CN81	1-506-486-11	PIN, CONNECTOR 7P				
CN82	1-506-481-11	PIN, CONNECTOR 2P				
CN83	1-506-481-11	PIN, CONNECTOR 2P				
		< PHOTO INTERRUPTER >				
IC81	8-749-924-18	PHOTO INTERRUPTER RPI-1391				(TABLE SENSOR)
IC82	8-749-924-18	PHOTO INTERRUPTER RPI-1391				(TABLE SENSOR)
IC83	8-749-924-18	PHOTO INTERRUPTER RPI-1391				(TABLE SENSOR)
IC84	8-749-924-18	PHOTO INTERRUPTER RPI-1391				(TABLE SENSOR)
		< RESISTOR >				
R81	1-249-416-11	CARBON	820	5%	1/4W	F
R82	1-249-416-11	CARBON	820	5%	1/4W	F
R83	1-249-416-11	CARBON	820	5%	1/4W	F
R84	1-249-416-11	CARBON	820	5%	1/4W	F
R85	1-249-415-11	CARBON	680	5%	1/4W	F
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		MISCELLANEOUS				
		**********				
7	1-790-420-12	WIRE (FLAT TYPE) (21 CORE)				
8	1-773-183-11	WIRE (FLAT TYPE) (23 CORE)				
301	1-792-024-11	WIRE (FLAT TYPE) (16 CORE)				
⚠304	A-3328-818-A	OPTICAL PICK-UP KSM-213BFN/C2NP				
⚠CNP901	1-696-845-11	CORD, POWER (AUS)				
⚠CNP901	1-777-071-61	CORD, POWER (UK, AEP, SP)				
⚠CNP901	1-783-531-31	CORD, POWER (CND,E,US)				
⚠FL701	1-517-861-11	INDICATOR TUBE, FLUORESCENT				
M81	A-4672-675-A	MOTOR ASSY (TABLE)				
M82	A-4672-675-A	MOTOR ASSY (LOADING)				
M83	X-4950-062-1	MOTOR ASSY (DOOR)				
⚠T901	1-433-666-11	TRANSFORMER, POWER (SUB) (CND, E, US)				
⚠T901	1-433-668-11	TRANSFORMER, POWER (SUB) (UK, AEP, SP)				
⚠T901	1-433-877-11	TRANSFORMER, POWER (SUB) (AUS)				
⚠T902	1-433-663-11	TRANSFORMER, POWER (MAIN) (CND, E, US)				
⚠T902	1-433-665-11	TRANSFORMER, POWER (MAIN)				(AUS, UK, AEP, SP)
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Ref. No.	Part No.	Description	Remarks
		ACCESSORIES	
		**********	
	1-418-419-11	REMOTE COMMANDER (RM-DX300)	
	1-558-271-11	CORD, CONNECTION	
⚠	1-770-019-11	ADAPTOR, CONVERSION PLUG 3P (UK)	
	3-866-670-11	MANUAL,COMMONNESS INSTRUCTION (FOR CONTROL A1) (ENGLISH) (AUS, UK, US)	
	3-866-670-21	MANUAL,COMMONNESS INSTRUCTION (FOR CONTROL A1) (ENGLISH, FRENCH, GERMAN, SPANISH, DUTCH, PORTUGUESE, SWEDISH, ITALIAN, CHINESE) (CND, AEP, E, SP)	
	4-238-111-11	MANUAL, INSTRUCTION (ENGLISH) (AUS, US)	
	4-238-111-21	MANUAL, INSTRUCTION (ENGLISH, FRENCH) (CND, UK, AEP, E, SP)	
	4-238-111-31	MANUAL, INSTRUCTION (GERMAN, SPANISH, DUTCH) (AEP, E)	
	4-238-111-41	MANUAL, INSTRUCTION (SWEDISH, ITALIAN, POLISH) (AEP)	
	4-238-111-51	MANUAL, INSTRUCTION (CHINESE) (E, SP)	
	4-238-111-61	MANUAL, INSTRUCTION (DANISH, FINNISH) (AEP)	
	4-238-111-71	MANUAL, INSTRUCTION (PORTUGUESE) (AEP)	
	4-239-580-11	MANUAL, INSTRUCTION (GREEK) (AEP)	
	4-239-580-21	MANUAL, INSTRUCTION (HUNGARIAN, CZECH) (AEP)	
	4-239-580-31	MANUAL, INSTRUCTION (TURKISH) (AEP)	
	4-239-580-41	MANUAL, INSTRUCTION (SLOVAK) (AEP)	
	4-981-643-01	COVER, BATTERY (FOR RM-DX300)	
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REVISION HISTORY

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Ver.	Date	Description of Revision
1.0	2002.02	New